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WILL THE UNITED STATES HAVE TO IMPORT WHEAT?

A strange question to ask at this time, when we have exported vastly more wheat than at any former period, when the vast grain warehouses at the West are groaning under their heavy burdens, when the railroads and canals are taxed to their utmost capacity to transport it to the seaboard, and when the supply, notwithstanding the failure of the crop in England, and the immense quantity that has been shipped there, is largely in excess of the demand. Still, it appears that there are those in our midst who, from a study of the census reports, have come to the conclusion "that if an alteration does not take place in the mode of cultivation, the United States will in a few years require a large importation of wheat, instead of being able to export to Europe."

This is sufficiently startling. The quotation is not from one of the "sensation papers" of the day, but from so old and reliable a journal as the London *Mark Lane Express*.

All who are acquainted with the agricultural literature of this country know that for many years the great aim of several of our leading writers has been to prove that the present system of cultivation was exhausting the soil, and leading us, slowly but surely, to starvation and ruin. If one of them wishes to present the advantages of underdraining, —an improvement which needs nothing but truth to recommend it—he thinks it can not be sufficiently enforced unless he asserts that our farms are becoming year after year less and less productive. Another, advocating deep plowing, makes it a point to prove that, under the present system of plowing, the land is gradually becoming poorer and poorer, till by and by it will cease to produce altogether. Another, who claims to be a chemist and recommends farmers to send him a sample of their soil that he may take it to pieces and see what it is made of, thinks farmers won't do so unless he can convince them that it will soon be exhausted of this or that particular ingredient. Another, who wants to sell his "improved superphosphate," asserts that the crops are rapidly falling off, because the soil is becoming exhausted of phosphate of lime. From these several causes has arisen the cry of "deterioration of the soil," "falling off in the crops," etc., etc., which forms such a marked feature in our agricultural literature.

That there is very little reason in all this, we are fully persuaded. We believe the *soil* in most sections of the free States is as good now as it ever was. When land is cleared of the original forest, there is a considerable quantity of organic and available inorganic matter near the surface that has been deposited by the falling of leaves for centuries. This forms what we may call a heavy coat of *natural manure*. It enables us to grow crops for some years without applying anything to the soil. But in course of time the more readily available portion of this natural manure becomes exhausted, and it is necessary either to return a portion of the crops in the form of manure, or to plow in clover, or to render the latent plant-food in the soil available by summer fallowing or some other process which exposes the soil to the decomposing and disintegrating influences of the atmosphere.

If a farmer bought a piece of land that had just been heavily manured, and then sowed it to wheat and other grain for three or four years till all the manure was used up, he would not attribute the falling off in the crops to the *exhaustion of the soil*, but rather, and more properly, to the exhaustion of the *manure*. Our new lands, as we have said, have been heavily manured by nature, and when this natural manure is gone, and there is a deficiency in the crops, it is absurd to attribute it to the exhaustion of the *soil*.

"But is it true, then, that our crops are not as good now as when the country was new?" This is a difficult question to answer. If we take new

land, and subject it to a constant cropping with cereals, there can be no doubt that the crops will fall off. Our German friend in Wisconsin, who sows twelve hundred acres of his fifteen hundred acre farm with wheat every year, will ere long find a serious diminution in the yield per acre. The natural manure will be exhausted. He will then resort to plowing in clover and other practices for enriching the soil. If he is wise, he will sow a less breadth of wheat, raise more clover and grass, keep more stock, cultivate the land more thoroughly, and, by a judicious system of rotation, raise good wheat crops. This is what has been done in this section. There is not quite as much land sown with wheat as formerly, but the yield per acre, when, as last year, we escape the midge, is quite as large as at any former period. On well managed farms, there is no doubt that the land is as capable of yielding good crops as when it was first plowed. There are many other farms where the soil has been robbed of its natural manure, but the soil itself is still as good as ever. It abounds with plant food *in a latent condition*. A few years judicious management and good culture will render this latent matter available. Fewer acres will be sown to wheat, but the yield *per acre* will be as large as ever.

But we proposed to let our readers see what the *Mark Lane Express* thinks of the agricultural prospects of this country:

It has long been our opinion that the grain-exporting power of the United States was likely rather to diminish than to increase under the ordinary circumstances of the country. This opinion was derived from the statistical notices of the census and of the patent office, and confirmed by the statements of JAY, WELLS, and other American writers on the subject. These authorities have warned the agriculturists that if an alteration did not take place in the mode of cultivation, the United States would in a few years require a large importation of wheat, instead of being able to export to Europe. The expected result, contrary to all preconceived ideas of Europeans on the subject, is likely to be precipitated sooner than looked for by the most desponding, owing to the civil war now commenced between the North and South, that by the abstraction of hands from agriculture will inflict a blow from which it will take many years to recover. Already, according to Mr. JAY, the proportion of laborers employed in husbandry is not more than 1¼ to every 200 acres; a proportion totally inadequate to the proper cultivation of the soil, and owing to which large tracts of land are annually becoming unproductive, and going out of tillage and into the wild.

An American friend, just arrived from the States, has given us a paper drawn up by a statistician of that country which fully confirms what we have previously thought and written on the subject. And this deduction was made even before the affairs between the North and South had assumed the serious aspect they now present. By the paper written in February last, it is shown that an alarming decrease in the production of wheat had already taken place, and was still in progress; that the Eastern States were rapidly becoming unproductive of wheat; and that the new lands, for want of a mixture of argillaceous soil, will not continue to bear wheat for many years in succession, as is attempted to be done, without being exhausted. After admitting that the crop of last season was very great, but quite exceptional, and that there is a large quantity of wheat in the West ready to be forwarded to the Eastern seaboard for shipment to Europe, the writer goes on to say: "The tables of the new census being yet incomplete, reference can only be had to the seven previous censuses. The United States exported, in 1790, 1,018,339 bushels of wheat; in 1820, 25,821 bushels; in 1830, 408,910 bushels; in 1840, 868,585 bushels; in 1850, 1,026,725 bushels, or only 8,386 bushels more than sixty years before. These extraordinary vibrations in the export are measurably governed by the shortness or abundance of the crop. When short, we have less to spare; when full, we have more. But the fact has long been noticed, that our wheat-producing power is rapidly declining. In fifty years, this great staple of Ohio has diminished from an average yield of 30 bushels per acre to less than 15. In eleven counties of that State, which in 1850 yielded 7,531,757 bushels, there were but 4,413,207 produced in 1857, though in the interval many thousand acres of new land must have been broken up and sowed with wheat. Virginia, Maryland and Delaware have ceased producing largely, while in New England the diminution is almost incredible. In 1840, Rhode Island produced 3,098 bushels, but ten years later only 49. Within the same period, Connecticut fell from 87,000 bushels to 42,000, Maine from 848,000 to 296,000, Massachusetts from 158,000 to 31,000, New Hampshire from 432,000 to 186,000; Vermont alone maintained her ground, by yielding 535,956 bushels in 1850, against 495,800 in 1840. In the same period, Tennessee fell from 4,569,692 to 1,619,386 bushels, Kentucky from 4,803,152 to 2,142,822, Georgia from 1,801,830 to 1,088,534, and Alabama from 838,520 to 294,044. The whole wheat crop of the Union in 1840 was 88,513,270 bushels, while in 1850 it had risen only to 100,585,844 bushels, an increase of only 12,072,574 in ten years, of which Illinois, Indiana and Wisconsin supplied every bushel, showing conclusively that all the old wheat regions were rapidly deteriorating. In the same period, only nine of the slave States increased their crops; while the falling off in the whole fifteen was 2,200,316 bushels."

Even in New York State, the falling off is very great. Lands that produced a few years back 25 bushels per acre, now barely average 5. In Albany district, lands that formerly yielded from 30 to 40 bushels have sunk to 7½ bushels, and in some counties to 5 and 6; so that, notwithstanding the breaking up of large tracts of virgin soil, the diminution of the produce in the old States, and the increasing consumption of the rapidly-growing population, more than keep pace with it, and must continue to do so under the scourging and exhaustive system of husbandry now practiced. It appears, too, that even the productive prairie lands are not illimitable. The wheat region, according to the observation of competent persons, is limited to a zone of 10 degrees or 600 miles of latitude, and 20 degrees or 1,200 miles of longitude. Beyond these, wheat can only be grown as spring corn, yielding a very poor return, and soon becoming exhausted. We learn, in fact, that in the Northern States such has been the failure of winter wheat of late years, that it is now almost universally the practice to sow spring wheat; and it is doubted whether winter wheat ever has produced any profit to the farmer, unless covered with a coating of snow. The States of Ohio, Michigan, New York, Pennsylvania, Maryland and Delaware by the large mixture of clay in their soil, constitute their fitness for growing wheat; while the entire absence of clay in the soils of the Western prairies "foreshadows their early abandonment as wheat-fields."

Under such discouraging circumstances, that already appear to have assumed a normal character with the common conditions of husbandry of the country, what will be the effect of this disastrous war? One, which in its progress will inevitably drain every industrial institution of its best hands for the army. The probability is, that after the present growing crop is got in, a large breadth of the cultivated land will have to be abandoned; and should the war continue for any length of time, the produce of all kinds of "breadstuffs" must fall off, as fresh supplies of men are needed to be drafted into the armies.

Our merchants must therefore look out for fresh sources for the supply of wheat likely to be required during the next season. According to all human appearance and judgment, *it is next to impossible that the ensuing crop of wheat in this country* [England] *will near come up to the*

general average. The deficient breadth sown, — the wretched state of the seed bed—the immaturity and consequent weakness of the seed—the ungenial state of the weather throughout the winter and spring—all these combine to render it probable that the deficiency will be very considerable, and that we shall want as large, or nearly as large, an importation for the next year as in the present. It is therefore, we say, desirable to ascertain what resources we can muster to make up the deficiency that may probably arise in the imports from the States. Under existing circumstances, these *must* be curtailed, while they *may* be entirely cut off.

We beg leave to assure our respected contemporary that its fears are groundless. It will be some years before the United States will have to *import* wheat from Europe. It was only the other day that one of our heaviest Rochester millers remarked, "The stagnation of trade and manufactures has caused a great many persons to turn their attention to agriculture. The consequence will be that we shall raise so much wheat that it will be impossible to dispose of it." We do not agree either with him or with "JAY, WELLS, and other American writers," who think we shall have to import wheat. The truth lies between these two extremes. Wheat will not remain long at a price at which it can not be profitably produced. But as long as there is a good home and foreign demand for it at remunerative prices, the intelligent farmers of the United States and Canada will prove abundantly able to supply it.

The assertion that the average yield of wheat in Ohio has fallen from "30 bushels per acre to less than 15," is simply absurd. There is no satisfactory evidence that Ohio or any other State ever produced an *average* of 30 bushels of wheat per acre. Where is the proof that "lands in New York State that formerly produced 25 bushels per acre, now barely average 5"? Some fifty years ago, an Englishman on a visit to this country wrote home that the wheat crop in Albany county was 30 or 40 bushels per acre. A few years since, the census showed that the average wheat crop in that county—which never was a wheat section—was only 7½ bushels per acre. This fact was seized upon by some writer—we think it was the author of the Agricultural Report of the State of New York—to show the alarming deterioration of the soil, and the necessity for the application of science in agriculture. There never was any truth in it, but the statement has been repeated so often that many doubtless accept it as a well established fact.

FAT COW.—R. & W. F. CHOATE lately sold to a butcher in Batavia, N. Y., a "native" cow that weighed alive 1,600 lbs., and dressed 1,117 lbs. She was five years old, had had one calf, and was milked up to September last. She brought $70.

GOOD SEED—EARLY WHEAT.

"WHAT you sow, that shall you also reap," is as true in agriculture as in morals. It was once thought, and sustained by high authority, that imperfectly ripened wheat, if it would germinate, was as good as any for seed—and even recommended as better than good, plump kernels, as more seeds were contained in a bushel. Experience proves this notion fallacious. We may as well expect a full-sized Morgan horse from a Spanish jackass, as a good crop of wheat from imperfect seed. *To produce the best, we must propagate from the best.* (*a*)

In England, the farmers take the sheaves and whip them gently over a stone, when the best and earliest ripened kernels will fall out, which they take for seed. A better method is to go through the field and select the earliest ripened heads for seed, which will soon produce an earlier variety than the original stock. Such seed will also produce a crop free from smut. Sowing poor, half-ripened, imperfect seed, is sowing smut and disappointment. It might seem that it would be an endless task to gather enough early heads for seed, but it requires but two or three years to change the variety, and have seed enough and to spare.

A wheat known in Scotland as the Hopetown wheat, and deemed an excellent and prolific variety, owes its origin to an accidental circumstance an observing farmer having remarked a very superior ear, from which he picked out ninety-nine kernels, and from their product came this celebrated variety.

"To show the rapidity with which such seed may multiply, we give an instance. A farmer in Cambridgeshire, England, in 1840, gathered eighteen very fine ears, the proceeds of which filled a common wine glass. These seeds he planted the following autumn, and produced one peck. This was planted the following autumn, and produced seven bushels and one peck, and this produced one hundred and eight bushels and two pecks, which was planted in 1843, and produced one thousand eight hundred and sixty-eight bushels." This was the increase of eighteen heads of wheat in four years.

Another farmer planted thirty kernels in 1839, which produced fourteen and three-fourths ounces; this was sown, and produced one bushel and one peck; this produced forty-five bushels; and this, in 1841, produced five hundred and thirty-seven bushels.

It will thus be seen that the task of gathering the earliest ripened heads, and thus producing an early variety, is not great; and farmers will be well paid for the trouble. They will get a variety that can be sowed late enough to escape the fly, and that will still ripen early enough to escape the rust. Try it, and give us the result.—*Ohio Farmer.*

(*a*) The leading idea embodied in this paragraph is one which can not be too often enforced. Farmers and horticulturists are far too indifferent to the quality of the seed which they intend to sow. Not only is this true in regard to the variety, but also as respects the development of the seed itself. We do not feel quite sure, however, that the best

and plumpest kernels are always the best seed. We know good farmers who like to get their seed wheat from thin, poor land, where the grain is light and the kernels, though of good length, are deficient in plumpness—in other words, deficient in starch. No one expects a Morgan horse from a Spanish jack, but we may obtain a good colt from a well bred stallion that is not in high condition. So it is *possible* that we may obtain excellent wheat from seed, of a good variety, that is not itself as fully developed as it would be under the best culture. Our excellent contemporary says: "Experience has proved this notion fallacious." Perhaps so. But if it has, the facts have escaped our observation, and we should be glad to have them brought forward. This is the question: will seed wheat of a particular variety, say Soules for instance, that has been produced on good land, and the kernels of which are large and plump, produce a better crop than seed of the same variety grown on poor land, and the kernels of which are small and thin?

We confess to a doubt on this point. As we have said before, there are good and experienced farmers who prefer to get their seed wheat from poor, thin land, believing that when sown on richer and stronger soil it will produce a better and earlier crop. We are inclined to think they are right, but do not feel certain on the point. Mr. S. TAYLOR, of England, for many years a large farmer, used to prefer the thinnest wheat for seed. He says he has seen "the most beautiful samples of wheat produced from seed of the most ordinary description." On the other hand, MORTON'S *Cyclopædia of Agriculture* advocates similar views to those of the *Ohio Farmer*.

"WHAT ROTATION SHALL WE ADOPT?"

THIS question can not be definitely answered. Much depends on the character of the soil and climate, and on the crop which it is considered most important to raise.

Where wheat is the principal object, the system of rotation should have special reference to the preparation, cleaning and enrichment of the ground for this crop. On heavy clay soils, it is difficult to dispense with the use of the summer fallow in cleaning and preparing the soil for wheat—at least for any length of time. On naturally rich soil, that has been down in grass for some years, corn, followed by barley and then wheat, is a profitable rotation for the time being. But all these crops are cereals—all are believed to require the same general character of plant-food. Corn—barley—wheat, therefore, must be regarded as an exhausting system of rotation. It is directly contrary to the old English maxim, "Never two white crops in succession."

Corn—oats—wheat is a common rotation in some sections of Pennsylvania, but this is open to the same objection. Corn—peas—wheat would be far better. The peas, if a heavy crop, smother the weeds, and they are off in time to allow of the ground being put in good condition for the wheat. If the summer and early autumn, however, are very dry, there is danger of the seed wheat not germinating on the pea land, from lack of moisture. The advantage of the peas over oats or barley consists in their enriching qualities as compared with these crops. To get the full benefit of the crop of peas, however, it is necessary to consume them on the farm.

Perhaps a better rotation would be, commencing as before with sod land—peas—wheat—clover two years, and then wheat again, seeded with clover.

GUANO—LOSS FROM EXPOSURE.—The *Irish Farmer's Gazette*, one of our best European exchanges, says:

"Continued exposure to strong sun will rob the guano of all its best qualities, and render it all but worthless."

A good, *sound* guano, *kept perfectly dry*, might be exposed to the hottest sun for any length of time without much loss. The general opinion is that the ammonia of the guano, being a gas lighter than the atmosphere, would evaporate if exposed. But the fact is, that though a good Peruvian guano contains nitrogenous compounds equal to 16 per cent. of ammonia, there is very little *ready formed* ammonia in a *sound* sample of guano. Moisten the guano with water and keep it in a warm place, and it will soon ferment, and carbonate of ammonia will be formed. If in this condition the guano is exposed to the sun and air the ammonia will escape. But as long as it is kept dry there will be little if any loss.

PRINCE ALBERT has been elected President of the Royal Agricultural Society of England. We believe he is also President of the London Horticultural Society. He has always taken a deep interest in agriculture, has an excellent farm at Windsor, and is a successful prize-taker at the various cattle shows. The Paris *Journal d'Agriculture Practique* alludes to his election as "*La grande nouvelle agricole du jour*"—the great agricultural news of the day.

ON THE WHEAT CROP.

The oat crop having been removed, the farmer hastens to prepare the ground from which it has been taken for his wheat crop. (*a*) The first operation to be performed on his oat-stubble ground is generally plowing; after which it is harrowed and then marked out by furrows at proper distances, to guide in spreading the barn-yard dung, which is hauled out and placed in heaps along the furrows, so that it may be easily spread. (*b*)

This being done, the ground should at the proper time be again plowed, harrowed and rolled, preparatory to receiving the seed. Some farmers plow but once, thinking it preferable to two plowings. When this is done, the manure is hauled out on the oat-stubble. This practice, however, is not to be recommended.

There is a growing difference of opinion among practical men as to the best mode of seeding wheat; some advocate the drill, and others broadcast from the hand. The advantage from the use of the drill is, that the seed is, deposited more evenly, as some think, and at a proper depth; but is this so? Any one who looks at the operation of the drill may see that the grain is deposited thickly *in the row*, and that between the rows we have a space of four or five inches, where there is no seed; hence, though that part of the plant which is above ground has room for air and growth between the rows, the roots are too much crowded. Again, as in this vicinity, we sow grass and clover seed with the wheat, as the best means of getting the grass crop, which is, to a degree, the permanent crop; does the grass "take" as well among drilled wheat as where the wheat has been sown broadcast? The wheat crop serves as a nurse or protector to the young grass and clover, sheltering them from drying winds, frost, and hot sun. Now, as the timothy grass seed is generally sown in the autumn, immediately after the wheat has been put in, it would seem that, in the space between the rows of wheat, the young and tender grass is more exposed to these injurious influences than among wheat sown broadcast, which grows evenly (if well sown) over the surface. In England, where the drilling system was first practiced, the rows were sufficiently far apart to admit of the hoe, and the crop was cultivated. It is not usual there to sow grass seed with the wheat crop—nothing is suffered to grow but the crop itself. (*c*)

How far (if at all) is the presence of the grass and clover detrimental to the grain crop? As regards the application of manure to wheat and other crops, is it not a fact that the most valuable portions of barn-yard manure, being salts, soluble in water, descend? Is it not a fact that ammonia, about the loss of which by volatilization we hear so much, though extremely volatile, does not escape into the air to any great extent, but is largely absorbed and condensed by the surface moisture, and by porous bodies, such as earth, straw, and decaying matters, on the surface? Chemical experiments show that moisture and ammonia have a powerful affinity for each other, and that porous bodies absorb ammonia largely. When we consider these facts, and that the more permanent components of manure are in the shape of soluble matters, which the water carries into the soil, is it unreasonable to doubt the propriety of plowing in barn-yard manure deep? (*d*)

When it is desired, as is mostly the case, to set the wheat stubble with grass and clover, the timothy, which is in this vicinity preferred to all other grasses for hay, is sown in the autumn, immediately after the seeding of the grain; and the usual course is to sow the clover seed early in the spring, just as the frost is about going out, or, if there should be a light layer of snow, to sow the seed on the snow; and thus, as the snow melts, and the frost disappears, the seed settles into the soil, and is ready to vegetate with the increasing warmth of the season.

The above article, from *Evans' Rural Economist*, published at West Chester, Chester Co., Pa., contains several suggestive remarks.

(*a*) We infer from this that the common practice in Chester county is to sow wheat after oats. In Western New York, wheat is seldom sown after oats. It is considered by many farmers here one of the worst crops to precede wheat. For what reason we do not know. It is far more common to sow wheat after barley. Perhaps the opinion that oats should not precede wheat is, to some extent, owing to the fact that oats are generally sown on lower and wetter land than barley,—on land not so well adapted for wheat—and that the poor wheat crop which follows the oats is rather to be ascribed to the character of the land than to any deleterious or exhaustive effects of the oats. We throw out the idea for the consideration of our readers, and should be glad of their experience on this point.

In England it is much more common to sow wheat after oats than after barley. The reason of this, is that oats are grown on clayey land—land which produces heavy crops of wheat, but which is not well adapted for the cultivation of turnips and barley. This difference in the practices of the two countries may account for the difference of opinion in regard to oats as a crop to precede wheat. Or, in other words, it is the character of the land, and not the character of the oat crop, which has caused these conflicting opinions. In England, oats are sown on good wheat land, and there oats are considered a better crop to precede wheat than barley; here, oats are sown on land not well adapted for the production of wheat, while barley is sown on good wheat land, and the general opinion is that barley is a better crop to precede wheat than oats. This reasoning may be all wrong. Oats may remove more from the soil than barley—and when a larger crop is obtained, as is generally the case—this is undoubtedly true. Oats, too, are not harvested as early as barley, and there is consequently not so much time to prepare the land for wheat the same autumn.

It is perhaps hardly worth while to discuss the question, for most good farmers agree in condemning the practice of taking off either a crop of oats *or* barley immediately before wheat. We have seen good crops of winter wheat after a crop of barley, but we think the system can not long be pursued without considerable falling off in the productiveness of the land. Better seed the land down with clover for a year or two.

(*b*) The practice of manuring land for wheat is not usual in this section—the general opinion being that the manure causes too great a growth of straw. We apprehend, however, that many of our wheat fields would prove grateful for a little manure.

(*c*) One of the principal advantages of sowing wheat with a drill is that the seed is deposited at just such a depth as is desired; and it has been found that, in a dry season, wheat sown broadcast germinated very irregularly, while that sown with the drill, which deposited the seed in the moist soil below the surface, germinated at once, and the result was that the wheat that was sown with the drill produced a much better crop than that which was sown broadcast.

An eminent agriculturist in Scotland gives it as his opinion that there is no advantage in drilling wheat *unless the crop is afterward hoed.* This is probably true in Great Britain; but, for the reason given above, it is not always true in our drier climate, and where we sow wheat a month or six weeks earlier than in England. It is also a fact that English farmers *do* drill in their wheat as a general rule, even when they have no intention of afterward hoeing it.

Clover and grass seed are usually sown, in the "four course system" of English agriculture, with the barley. But on heavy lands, where this rotation is not adopted, clover and grass are frequently sown with the wheat, as in this country. In the four course system of rotation, clover is sown with the barley, because there is no other crop with which it could be sown.

(*d*) Manure acts in two ways: chemically and mechanically. It furnishes food for the plants, and it also loosens the soil and makes it lighter and more porous. On heavy soils, long, unfermented manure often acts very beneficially in this manner when plowed in. In this case, it may be turned under at a considerable depth. But on lighter soils, with well-rotted manure, it would doubtless have a greater effect if plowed in quite shallow, or spread on the surface. In the fall, or early in the spring, when the weather is moist, we should apprehend little loss of ammonio from spreading the manure on the surface.

HIRED HELP.

Farmers are obliged to hire laborers, unless they have boys enough to do the work of the farm. When the farmer can attend to all the operations in person, he can afford to hire ordinary help. But when he is away from home half the time, he should hire men who know something of the business, or he will not make the two ends meet.

Young men who want employment often state that they have been bred to farming and know all about it. Yet when they are required to set a fence, to hold a plow, to drive a team, to plant potatoes or corn, or to perform the ordinary labors, they show their deficiency, and the employers are obliged to teach them how to perform when set to any kind of labor.

It is not expected that the common laborer can lay stone wall—or split rails—or make mortice holes in posts—or set rail fence. Yet all this is work which must be done on most farms by somebody. The young man, therefore, who has not learned the art of doing these things, should not expect so high wages as the man who has experience.

It requires a long time to learn the whole art of farming, so that a farm shall pay an income of five per cent. on its fair value. But farms seldom yield five per cent. unless the owner himself is able to labor, and can be present to direct every movement.

Laborers earn more when they are kept to one kind of business through the day. If they are directed or permitted to go from field to field, or from one kind of business to another, they will not always give a good account of their day's work.

It is a good practice to let out work by the job when it can be done. Then the undertaker feels that he is at work for himself—and of course he will do more work than he would for another man.

Ditching, wood cutting, and other business may be jobbed out. And this when the employer is not at home to direct the work.

But the business of plowing, harrowing, and tilling among corn and potatoes, should be done in the presence of the owner.—*Mass. Ploughman.*

Lice on Fowls.—This is the season when fowls are infected with vermin. Setting hens are quite liable to become so infected with lice, that their nests and eggs frequently are covered with them. A few ounces of pulverized sulphur scattered in the nests and among the feathers of the hens, will prove a remedy. Chickens that become lousy should be rubbed upon the top of their heads and under their wings with lamp-oil; but not a great deal should be applied, as it sometimes, when applied too freely, does more harm than good. Lime and ashes should be sprinkled freely in the henroost and upon the perches.—T. B. M.

To make a Cow Clean after Calving.—Take a piece of weasel skin as large as a dollar or a little larger, cut it fine and feed it in a little meal or anything she will eat. From one to three doses will generally be sufficient. It is said that this receipt will never fail. I have tried it, and know it to be good. The readers of the *Farmer* are welcome to it.—A. Latuhop, jr., *Marquette, Mich.*

SPIRIT OF THE AGRICULTURAL PRESS.

CRANBERRIES.—G. P. PUFFER, of Wisconsin, who has had considerable experience in the culture of cranberries, writes as follows in the *Northwestern Farmer:* "From my experience, I should say the trouble will not be paid for on upland, where they can not be overflowed sometime through the year. The plants will grow for a year or two, but the berries will get so small that they will not be worth picking. But on low lands, there they are at home.

I am enlarging my patch every year by taking up the sod or marsh bog, about one or two spades deep, and removing it to my barn-yard, and plant in the pit. I have a drain to it, so I can have it perfectly dry. I find it improves the berries if there is some sand put on the surface when planted, as that seems to enlarge the berries, and hastens their ripening. They love water, and I find them a great deal larger in seasons when there is an abundance of rain when they begin to ripen (something like the strawberry). When the plants commence to push or start in the spring, the ground must be full of water, but after they are started they will stand quite a drouth. The main point is to keep them clear of grass and weeds for two or three years. The closer they are planted the sooner the ground is filled and the weeding done. They will pay better than strawberries, if you take pains to prepare the ground good. In winter time they should be under water, on account of the meadow mouse; if not, they will eat up a whole patch in a season."

LICE ON FOWLS.—A correspondent of the London *Field* says fowls may be kept free from vermin as follows:—"First of all, if in confinement, in the dust corner of the poultry house, mix about half a pound of black sulphur in the sand and lime that they dust in. This will both keep them free from parasites, and give the feathers a glossy appearance. If infested with the insects, dampen the skin under the feathers with a little water, then sprinkle a little black sulphur on the skin. Let the bird be covered with insects, and they will disappear in the course of twelve hours. Also, previous to setting a hen, if the nest be slightly sprinkled with the sulphur, there is no fear of the hen being annoyed during incubation, neither will the chickens be troubled by them. Many a fine hatched brood pines away and dies through nothing else, and no one knows the cause."

A MACHINE FOR PULLING WEEDS.—The *Glasgow Examiner* in a notice of the recent exhibition of the Glasgow (Scotland) Agricultural Society, says two farmers were observed examining a reaping machine. "At first they seemed puzzled what to make of it, until at last one of them pronounced his opinion in an oracular manner, that it was 'an improved machine for "puen" weeds'"! From this we judge that reaping machines are yet rare in Scotland.

TAME GRASSES ON THE PRAIRIES.—An Iowa correspondent of the *Northwestern Farmer* gives his experience with "tame grasses." He finds from "two years pasturing that timothy and red clover do well. The former predominates in a wet season, and the latter in a dry season. Blue grass does well for spring and fall pasture on dry ground, but red-top is best for wet ground."

MANAGEMENT OF REAPERS AND MOWERS.—The *Farmer and Gardener* gives some hints concerning the management of reaping and mowing machines, from which we extract the following:

"First, let the machine be in perfect order; by this we mean, that the knives should be keen, the guards well pointed, and free from all roughness; the journal boxes should fit properly, neither too tightly nor too loosely; they should be well oiled in the start, and kept well oiled all the time. Oil is a great economiser of machinery and muscle.

Use none but the *best oil.*

Never go to the field without your tool box, which should always contain at least the following: A good monkey wrench, file, cold chisel, rivet punch, whetstone, extra blades, extra guards, extra rivets, a block of iron on which to close the rivet heads, a pair of pincers, and a screw driver.

Never, if you have any love for your horses, or wish to do good work, use a knife for more than three hours without sharpening. *Keep your knives sharp.*

Let your team be steady and well matched in point of strength. Never start a machine by causing the horses to jump. That is the best possible way to break a machine.

All good machines back easily now, therefore always give the machine a foot or two to get into motion before it begins to cut the grass.

Under no circumstances, give your team and machine into the hands of a careless and inexperienced operator. Bad drivers are worse than bad teams or dull knives, and the latter two are as bad features about a mowing machine as we can well conceive of.

Every two or three rounds, the driver should apply the wrench to the principal nuts, to see that they are perfectly at home. A nut or screw loose often causes damage or delay of the most serious character."

A GOOD DAIRY COW.—JAMES D. LADD gives in the *Ohio Farmer* an account of a half-blood Ayrshire cow owned by Dr. E. M. PYLE, of Richmond, Ohio, from which it appears that she calved at Christmas, and on the 4th of April following a trial was commenced in regard to the milk and butter she would yield. She gave an average of 26 quarts of milk per day for seven consecutive days, of which one quart per day was disposed of, and the family used besides what they wanted for culinary purposes. The yield of butter in seven days was 15 lbs. 8 oz. Had all the milk been used for butter, it would probably have yielded 16 lbs. or over.

PAYING FARMERS TO CART BONES AWAY.—C. W. JOHNSON, in an article on phosphate of lime, in the London *Farmers' Magazine* for June, says, "There are yet men, I am told, in Sheffield, who are old enough to remember the time when the Yorkshire farmers were *paid* for carting away the refuse bones and ivory turnings of the Sheffield knife makers."

EATING OFF CLOVER IN THE FALL.—The *Canadian Agriculturist* well observes: "Irreparable injury is sometimes done to meadows and clover lands by hard stocking late in the fall or early in the spring. Sheep in particular, by eating close, often seriously injure the crown of the clover plant, and thereby either kill it or greatly injure its after growth."

GIVE YOUR HORSES LIGHT AND AIR.—A writer in the *Farmer and Gardener* well says:—"Look to the ventilation of your stables, if you would not have prematurely old and worn out horses. Depend upon it, plenty of light, and plenty of air in your stables, will save you many a dollar in the course of a lifetime."

THE WORST BREED OF HOGS.—A correspondent of the *Northwestern Farmer* says:

"There is doubtless great difference of opinion with regard to the best breed of hogs—not so much, we think, with regard to the worst. And though some may think that '*a full corn crib is the best breed*,' yet we respectfully beg leave to differ.

Your humble servant last year had a present of two pigs 'of extra breed'—and wishing to get a stock of the 'extra breed,' took particularly good care of them. They grew 'like ill weeds,' as a neighbor told me—and so they did—precisely—long, tall, and thin, and fast withal. They progressed—principally in bones—finely, till this spring, when, having some scattered grain in the stack yard, we turned them into it—and presto! in a few days one pig, or hog, rather, had eaten eight ducks, and how many chickens we couldn't say, as we didn't keep count. Feeling perfectly satisfied that they were an 'extra breed,' we built a pen, not quite a mile from the house, and forthwith immured the carniverous animal for the remainder of his natural life—not wishing to trust him with our other hogs, knowing that 'evil communications, etc." Now, my private opinion is, that these belong to the breed that got an evil spirit into them, and then ran down a steep hill, into a certain lake, where most of them were drowned; though some of them must have escaped, else how came they here?

The moral is, that a good breed is even better than a full crib—for these hogs (and I *know* there are plenty more like them) got all the corn and slop they could dispose of. And instead of thriving, as decent porkers should, they are little less than skin and bone. They will doubtless be large hogs when they get fat—the date of which fact is rather uncertain, in fact, rather mythological.

Now, why will farmers keep such land sharks? Any farmer can take a good Suffolk, or Chester White hog, and raise at least double the amount of much better pork, with the same quantity of feed. It wouldn't be a bad idea, I think, if the legislature would offer a bounty, of say two dollars a head, for the slaughter of the long-legged, long-nosed breed—three, four and five rowed hogs, as a neighbor calls them; 'because,' says he, 'they can stand outside the fence, and reach their noses, or snouts, to the third, fourth, and fifth row of potatoes.' We feel satisfied that the time will come when they will be looked upon as a curiosity."

HOW TO TAME BEES.—Procure some rotten wood or punk, and ignite so as not to blaze, but smoke; go to any hive—not at night nor in the morning when it is cold, nor in a rainy day, but in the middle of a warm day—and without hesitation place the smoking wood near the entrance, and blow the smoke upon the bees that are near, and also a puff or two into the hive; turn the hive over gently and blow a little of the smoke upon the bees. The effect will be to frighten the bees, causing them to commence loading themselves with honey from the cells. When bees are gorged with honey, they are good-natured, and can be handled with impunity if handled with care. So says a correspondent of the *N. H. Journal of Agriculture*.

TIME OF MARES CARRYING COLTS.—W. H. LADD states in *Field Notes*, that from records kept the last thirteen years, he finds that the most usual period of pregnancy with mares is eleven months and a half. As mares get older the time is increased as a general rule, a few days each year.

TO MEASURE CORN IN A CRIB.—A writer in the *Prairie Farmer* says: "This may be done by multiplying the length, breadth, and height together in feet, multiply this product by four, strike off the right hand figure and the result will be shelled bushels."

MARL AS A MANURE.—The *Canadian Agriculturist* says: "In most parts of Canada, marl is to be found, varying considerably in its composition, and consequently in its manuring power. Shell marl is often exceedingly rich both in the phosphate and carbonate of lime, and constitutes a mine of wealth to the farmer where it is found in sufficient quantity, especially for soils that have been exhausted from over-cropping. As our soils have their standard of productiveness gradually lowered by increased cropping, marl will be found in many places a valuable acquisition, and will improve the land to which it is applied, through a long rotation of crops, both mechanically and chemically. Marls are well suited as a top dressing to grass lands, as the substance crumbles by exposure, and the particles become minutely divided. The most profitable application, observes the *Mark Lane Express*, consists in laying it on grass leys in the end of autumn or beginning of winter, when the changes of weather will accomplish the decomposition of the marl by the time the grass shoots in the spring. It will thus secure an even spreading over the surface; and the bush harrow and the roller being afterward employed, the particles will be well reduced and pressed into the soil. The crop of grass is greatly improved; and the land is plowed for a grain crop in the following years. The marl will be thoroughly matted in the turf, and the vegetable sward which it has raised will most materially promote, by its decomposition, the subsequent fertility of the land."

WEATHER-PROOF NAILS.—A correspondent of the *Ohio Cultivator* says: "Everybody knows what a difficult thing it is to nail roof boards and weather boards so that they will hold for a good length of time. There are many other places in which it is nearly impossible to make nails do the office for which they are intended. A remedy—and the only one I ever saw—I discovered a few years ago; it is very simple, and never fails: Take ten-penny, malleable nails, and place the head in a vice; take a pair of pincers and grip the nail near the point, twist it half way round, minding to make the twist somewhat elongated. In driving, the nail becomes a screw, and neither sun nor hammer can withdraw it."

HEN MANURE FOR INSECTS.—A Wisconsin correspondent of the *American Agriculturist* has tried this remedy with success, in driving away ants from apple blossoms and from pæonies, and to expel bugs from squashes. For four years he has covered the top of the ground round cucumbers, squashes and melons with hen manure, and has had no trouble from bugs. He applies a wash made of hen manure to the bark of fruit trees and shrubs, to protect them against mice, rabbits and sheep. It also routs the bark-louse.

TO PREVENT FLIES FROM TEASING HORSES.—An exchange says: "Take two or three small handfuls of walnut leaves, upon which pour two or three quarts of soft cold water. Let them infuse one night, and pour the whole next morning into a kettle, and let it boil for about fifteen minutes. When cold, it will be fit for use. Nothing more is required than to wet a sponge, and before the horse goes out of the stable, let those parts which are the most irritated be smeared over with the liquor.

MANAGEMENT OF HONEY BEES.

During the month of August, the principle danger occurs from the moth, or wax-millers. It is at this season of the year that stocks are overcome by that insect, which have become weak by over-swarming, or by other causes. Swarms are seldom infested to any dangerous extent by the moths, because the bees build combs no faster than they can protect them; but a *stock* (thus called after the first year) that contains only bees enough to cover half, or less, of the combs in a hive in the month of August, and fore part of September, is pretty sure to suffer from the moths in a greater or less degree.

There is no possible way to wholly exterminate this insect, but its numbers may be greatly diminished by placing shallow pans upon or near the hives, containing milk and water, well sweetened with molasses. Sweetened water alone is often quite efficacious, but I think that the milk, from its color, tends to attract the millers in a greater degree. These insects, which are active at evening, and during warm nights, are attracted to the pans, fall into their contents, and are unable to extricate themselves.

The moth is not considered by experienced apiarians as of any serious danger, since by so managing the bees as to have no weak stocks, it can not affect a lodgment in any hive that will endanger its prosperity. Here lies the main secret of successful bee-keeping—to have the apiary consist wholly of strong families; since it is a well demonstrated fact, that no strong family of bees was ever destroyed by moths. Swarms can be made strong by doubling, and stocks that have become too weak to prosper by over-swarming may be united to other families, and thus the apiary made to be almost impregnable against the attacks of this insect.

But such a system of management requires the expenditure of a good deal of watchful care and labor. No man can make money by bee-keeping who leaves his bees, the year round, to take care of themselves. Like all other sources of profit, a certain amount of care and labor must be bestowed upon their management, or they will not prove profitable. It is true, a few hives of bees may, for a single season, pay a profit to their owner, if utterly neglected by him; but such management will soon dispossess him of his entire apiary. It is, therefore, to the interest of all bee-keepers to take good care of their bees, and they will find their reward in the extra amount of honey that will be produced.

When a family of bees is infested by the moth to a dangerous degree, it may be known by the inactivity of the bees, and the abundance of brown particles of comb that lie upon the bottom-board, or stand, of the hive. When such symptoms occur, if the stock be much reduced in numbers, it is best to cut out the combs immediately, and disperse what few bees there may be among other hives, or sufficient eggs would be laid in a few days in such a hive, to produce moths by the thousand, to prey as far as practicable, on other families of the apiary.

The bees thus driven out of their tenement would, on entering other hives, meet with resistance, and many of them would be killed, but this is the only course that can be pursued to advantage. If the bees, in such cases, were driven into an empty hive, in order to build combs anew, it would be found that they would not prosper, owing to the lateness of the season, and the small number of bees in a hive.

At this season of the year, it is customary to remove surplus honey—that is, the cap honey destined for market. In nearly all of such caps, the eggs of the moth millers exist, and unless they be fumigated with burning brimstone they will hatch out, and injure the honey materially. The manner of fumigating is as follows:

Take a box of any size, according to the number of caps to be fumigated at the same time, in which attach slats to support the caps about a foot from the ground, when the box is inverted—the open side upon the ground. Shavings or rags dipped in brimstone should then be placed in a shallow iron vessel, set on fire, and placed upon the ground under the box, and not disturbed for an hour, when all the eggs of the moth that are in the caps will have been destroyed so far as any vitality that they possess. The box should be quite tight, and when inverted upon the ground, all air holes around it closed up.

In a large box, several tiers of caps may be placed, with the holes in them on the lower side, to allow the fumes of the sulphur to ascend among the combs; and if one has a hundred or more caps to fumigate, it may be done in a close room of any out-building, all at one operation.

When honey caps are removed from the hives in August or before, and stored away without fumigation, they will be found to contain frequently one or more of the moth worms, produced from the eggs deposited by the millers, which will commence to weave webs among the combs, and thereby render the honey unsaleable. In some localities, where no buckwheat honey is stored up, the caps may be left in the hives till October or later, without any especial detriment to the honey, save a slight tinge of yellow being imparted to the combs; but in all places where the bees *build combs* when the buckwheat is in blossom, the honey produced from white clover in the earlier part of the season must be removed as soon as the general honey harvest is over, which takes place in Central New York about the first of August. Here, in Oneida county, our bees make no combs from buckwheat honey, owing to the small quantity of that grain that is sown.

Honey should never be stored in a cellar, as the dampness is very injurious to it; an airy, cool, upper room is best. As soon as the boxes have been fumigated, take fine muslin and paste it over the holes in the caps, if the honey is to be sent to a distant market; but if designed for home consumption, or family use, paper may be used in place of muslin. Please note that when the caps are left in the hives till October or later, no fumigation is necessary, as the eggs of the miller contained therein in August have all hatched out, and the bees have destroyed the worms. If, however, there should be moth eggs in the caps as late as October, they would not hatch out at that season of the year.

This is one of the most remarkable seasons in bee-culture that I have known in twenty years. At this date (July 5th), not a drone is visible in my entire apiary,—none having been produced—and the probabilities are that few or none will appear this season. On all other seasons, the drones have appeared in great numbers

as early as June 15th to 20th; and, as the *young* queens can lay no eggs till impregnated by the drones,—the *old* ones being fertile for life—it follows that depopulation must ensue to all stocks where the old queen has issued with a swarm, and to all swarms that issue after the first one, which is always led off by an old queen.

As a general rule, no swarms may be expected till the drones appear. Indeed, I have never known one to issue before this season where no drones exist; but my bees are sending off a few first swarms, not one-fourth of the usual number, and I do not anticipate any second or third issues at all. But if they do come out, and the queens prove fertile, with no drones in the apiary, it will overthrow the established theory of the impregnation of the queen, and produce a new era in the natural history of the honey bee.

The reason why no drones have been reared this season is caused, undoubtedly; by the natural instinct of the bees teaching them that it is not safe to send off swarms, owing to the unusual backwardness of the season. The apple tree blossoms and white clover were both two weeks later in appearing this season, than at any former period within the last twelve years—the time that I have resided in this section of the State; and, as the honey harvest *closes* the first week in August, no matter how late it commences, it follows that swarming after this date (July 5th) will be attended with considerable risk to the prosperity of the bees, without any reference to the necessity of drones to fertilize the young queen.

When an old queen issues with a first swarm, she leaves several embryo queens to supply her place. When these young sovereigns mature and issue from their cells, they either issue with the second and third swarms, or all but one are destroyed, and the survivor remains in the parent hive; and in order to become fertile they must meet the drones in the air to receive impregnation, and it follows that if no drones have been reared this season, in apiaries in general, the consequences will be very disasterous.

T. B. MINER.

Clinton, N. Y.

BEES—ANTS—HIVES.

Eds. Genesee Farmer:—Bees are frequently very much annoyed by ants. Unless hives are properly constructed, they will take possession of the honey chamber or crevices, and propagate their young in large numbers. Not only are they annoying to the bees, but, unless proper measures are taken to prevent their ravages by driving them out of their hiding places and away from the hives, they will injure them very materially.

Frequently the ants will harbor where it is quite difficult to get access to them. They may instantly be driven out of such places and away from the hives simply by directing on them a quantity of tobacco smoke, or the smoke of any pretty well decayed wood. They can be effectually kept away from the hives by the use of a small quantity of turpentine. It may be thinly spread over the parts of the hive frequented by the ants, with the feather end of a quill. Some might suppose that the scent emitted by the turpentine would be offensive to the bees; nothing of the kind, however, has been observed by the writer.

The foregoing preventive against the depredations of the ants has proved to be the most efficacious of any yet tried by the writer; and, as it has never been known to fail, it can safely be recommended to others.

In the construction of a hive, one of the chief objects to be kept constantly in view is *simplicity*. If a hive be complicated, have many useless contrivances connected with it, it is quite liable to furnish an excellent harbor both to the ant and the moth-worm. A hive should be well made, and of good, seasoned lumber. The best lumber for this purpose, in most sections of our country, is pine. When the hive is finished, it is advisable to fill all joints, and crevices if there be any, with a warm liquid made of three parts rosin and one part beeswax. It will quickly cool and become as impenetrable as wood itself. The bee-moth will thereby be effectually prevented from depositing her eggs in such places; and, aside from this, not only will the moth-worm be compelled to go elsewhere to find a place to spin its cocoon, but the ant will find its hiding places somewhat diminished.

Middleport, Niagara Co., N. Y. M. M. BALDRIDGE.

THE WHEAT CROP IN ENGLAND.

The London *Mark Lane Express*, of June 24th, says:

We are now about to enter upon the last quarter of the agricultural season, and the wheat has but just begun to show the ear. This is about a fortnight later than the average period, and will probably throw back the commencement of the general harvest until the first or second week in August, although some of the earlier kinds of wheat may be ready for the reaper in the last week of July. The causes of this late condition of the crops are too palpable to require a moments reflection to ascertain them; but it may be instructive to show, without any pretensions to prophecy, that the same causes which have retarded the progress of vegetation will also affect the general production of wheat throughout the country at the coming harvest. The observations about to be made on the subject will be confined to that grain, because the secondary spring crops have been sown with the land, generally speaking, in excellent order; and although they, too, may be later than usual in coming to maturity, the conditions of the soil at seed-time were far more favorable than in the case of the wheat.

Perhaps there never was a greater combination of circumstances adverse to healthy vegetation than those that attended the earlier stages of the present crop of wheat, during the autumn and winter; and, if analogy and experience have any weight or value in such cases, it will indeed be a remarkable fact if the yield should prove an average one. The most important of those drawbacks which the wheat has had to encounter may be summed up as follow: The immaturity of the seed—the damp state in which it was thrashed and sown—the cold, wet, and foul state of the land in which it was deposited—and the continued wetness of the subsequent weather until the middle of February. We say nothing of the frost, because,

had the autumnal conditions been favorable, the frosts of last winter would never have injured the wheat plant, which, like grass, can bear any severity of temperature, other things being favorable.

With regard to the immaturity of the seed-wheat when cut, that would probably have produced no ill effect if the weather at harvest had been such as to allow it to ripen in the shock, as in a favorable season it would have done. This was not the case; and, after standing in the field from one to three, and even, in some cases, *four months*, it was ultimately carted in the same immature state as when it was cut. Nor was there any weather, either in the autumn or winter, that could improve it. Now, that such unripeness of the seed-corn is unfavorable to a healthy, vigorous growth is proved by the length of time it remained after sowing, before it appeared above the ground, as well as by the weakness of the plants in the earlier stages of their growth, and the inability they displayed in many cases to stand against the frost at Christmas. The weakness of its constitution is also proved, by the quality of the flour produced from it, which contains much less than the usual proportion of gluten, and is, in fact, so inferior in every respect, that very little indeed of the wheat of last year was fit for making into flour, without a good proportion of foreign or old English wheat being mixed with it.

Nor was the damp state of the seed-wheat less unfavorable to its quick and healthy growth. In the spring of 1817, which was after a harvest similar to the last, none of the corn ripened; and it is a singular fact, that until after the March winds had ripened the barley, *it would not vegetate at all.* The Earl of Albemarle publicly cautioned his tenants and neighbors against using the "black barley" for seed: he had made experiments with it, and even on a hot-bed it had not grown. Another singular circumstance attending it was, that kiln-dried barley (even after the month of March) came up a week quicker than that sown at the same time without being dried. Wheat possesses a stronger vegetating power than barley, having to undergo greater hardships in its early stages of growth, and is therefore enabled, by the strength of its constitution, to grow under such circumstances, although with much difficulty.

The cold, wet, and foul state of the soil at the period of sowing rendered land very unfit for a seed-bed. In fact, it is well known that not more than two-thirds (if so much) of the land intended for wheat was sown before February, and, even then, a considerable portion of what was left over could not be got ready in time for wheat. Throughout the autumnal and winter months, there was no genial warmth in the ground, but one continued chilliness, especially in the wet clays and undrained lands generally, which, in numerous instances were plowed up and re-sown—some, even a third time. The continuance of the cold rain throughout the season till the middle of February, kept the plant in a weak and stationary state, causing much of it to die out, and affording little prospect of a full plant.

Such are the causes which, it is apprehended, will tend, under any circumstances of the weather in future, to reduce the product of the wheat crop below the average. We may add to them, the deficiency in the breadth sown, which, in many cases, amounts to one-third, but may be safely estimated at one-sixth or one-fifth of the general quantity. Of the large proportion left unsown over Christmas, a good deal could not be got ready in time for wheat, with any prospect of a beneficial result, and was therefore sown with barley or oats, which afforded a much better prospect of remuneration.

The effects of these unfavorable conditions of the season are but too apparent to those who have the opportunity from day to day of observing the progress of the crops; nor are those effects confined to this country alone. We have conversed, within the last few days, with experienced and intelligent farmers, both English and foreign, and they all agree in representing the wheat crop, whether in France, Belgium, or England as a weak one—the plant thin on the ground, as not having tillered well; the straw and ear, where the latter has appeared, shorter than in general, and exhibiting less indications than usual of a healthy vigorous growth. This, it is to be feared, will be found to be the case generally, except on the *highly-farmed light soils, which, from their being less retentive of the moisture, have maintained a better appearance throughout the season.* It is impossible to give even a guess, much less a reliable estimate, of what the deficiency in the next crop will be, so much depends upon the weather of the next three months; but, that there will be a greater or less deficiency under any circumstances, there does not appear to be a doubt. The earing and blooming of the wheat will be watched with interest, and the subsequent weather will be equally important; for another importation of grain like that of last year, amounting probably to twenty-five millions sterling, will be enough to embarrass the financial affairs of the country.

HORSES—DIRECTIONS TO PURCHASERS.

Of course every man wishes for a sound horse, without defect in wind, limb, or sight. The various imperfections which occur in each of these are here enumerated:

The Eyes.—When the animal about to be purchased is at the stable door, before he is brought out, examine his eyes; the light coming upon them in that situation, will enable you to discover any defect that may exist. Remember that both eyes must be in an equal degree of light; and, regarding this, observe that there is no difference in the eyes, for if they be not alike one must be diseased. If both eyes be clear, and hazel round the pupil, and the pupil itself be blue, and free from any white specks—if it contract in the light and dilate when in the shade, you may conclude the eyes are good. If the eyes be blue round the pupil, or the pupil itself be in the least degree affected with external specks, or deep-seated pearly whiteness, termed cataract; if it do not diminish or enlarge, as the light is more or less upon it—in all these cases it is a defective eye. All weeping, cloudy, dull-looking eyes are unsound; and if there be the least appearance in any way of disease in this very important organ, reject the animal. Imperfect vision is often the primary cause of shying.

The Age.—Next examine the mouth to ascertain the age.

Yearlings and two-year-olds are alike in mouth, and must be judged by general appearance. At three years old, the horse has four *horse-teeth*, two above and two below, in front of the mouth, which supply the place of the sucking-teeth. At four he has eight horse teeth, four above and four below, the corner being only sucking teeth. At five years old, these are gone, and the *mouth is up*, at least with the exception of the inside of the backmost, which, especially in mares, sometimes do not rise until the sixth year; that is, all the teeth are horse-teeth, and the tusk is up on each side of the mouth. A dark mark, or hollow is generally observable in all the teeth of the bottom jaw at five years old; and the tusks are concave in their inner surface. At six, the two middle teeth have quite lost their mark, and the tusk is higher up, and longer, and not so concave. At seven the next two teeth have lost it, and the corner teeth only have the mark left in them. At eight, it has grown out of these, and no mark is left at all. The tusks also become longer, and instead of being concave in their inner surface, become convex; the horse is then termed aged. There is, however, a great deal of difference in the mouths; some have lost their mark in all except the corner teeth, even as early as five years old; others have their front teeth in the top jaw projecting over their bottom teeth at the same age. You may form some idea of the age from the appearance of the mouth in general, when the marks are no longer visible. If the corner teeth do not appear long and running forward, as it were, to the front of the mouth; if they retain their square shape, and shut well together; if the tusks are blunt, and have the least concavity on the inner surface, you may conclude that the horse is not very old, particularly if his head be not gray, and not very hollow above the eyes; though this latter shape sometimes exists in young horses. A concave tusk is the most certain criterion of youth; and as mares have no tusk at all, they must be judged by what I have said about the corner teeth, except in some cases of what are called "shell teeth," from their resemblance to the plate-like cakes of shells, and horses with these preserve the appearance of youth till ten or twelve years old.

THE POSITION.—When the horse is brought out allow him to be placed with his fore-legs up hill—because if his joints be at all bent over, or his legs shaken, you will best discover it in such a position.

KNEES.—As the horse stands, examine his knees, and ascertain that no marks exist in front of them. These marks are generally the symptoms of having been down, and even were they occasioned by other means than falling, the blemish is the same, and almost equally detracts from his value. Next look inside of the leg just under the knee, and if any scars be visible, or the hair sticks up, you may conclude that he cuts in his speedy or fast paces. Mark well that a similar scar does not exist at the ankle, or hair appear brushed; for such marks are solely produced by the act of cutting, which, as before observed, is generally a natural, and therefore incurable defect in action.

THE LEGS.—Take notice that the legs be not tottering, and inclining forward, either at the knee or at the ankle; and that the ankle joints be large in front. The back sinews, also, should not appear bowed out behind, nor feel thick—the symptoms of their having sustained some injury. The legs should be flat, and not round; neither should they be soft and puffy, but wiry and hard. Both legs should be alike, for if one be larger than the other, it is an injured leg. Never buy a horse for a sound one with a big leg, even though he be warranted. You need not mind a splent, or a bony excresence on the shank, unless it be so situated as to interfere with the suspensory ligament, or project so much as to hit the other leg in going. Ringbones, or enlargements on the pasterns and coronet, are easily perceived from a difference in the two legs; as it rarely occurs, even when both legs are affected, that they are affected equally. Incipient ringbones will sometimes produce lameness, even before they are observable.

THE FEET.—Be particularly attentive to the feet; for, according to the old saying—no foot, no horse. First of all, observe that one foot should not be less than the other; and that they should not be indented, or hollow around the crust. The crust itself should not be brittle, and broken where the nails have been driven; nor should there exist in it any circular cracks, nor longitudinal fissures from the coronet downward, which last are termed sand cracks. The heels should not be drawn together and contracted; nor should the frog be small and ragged, nor discharge fœtid matter, which is a disease called a thrush. The horn at the heel should be as high as the frog; for, if lower, the heels will be liable to corns; and the sole should neither be flat nor convex. It is obvious no horse can continue sound with these imperfections in the feet; and it frequently happens that horses with very finely formed feet, are very lame from a hidden cause within the hoof. Some veterinary surgeons consider such description of foot lameness hereditary. Lameness in the feet (often erroneously taken for and called lameness in the shoulder) frequently proceeds from a slight strain in the back tendon, which, on inflammation falling down to the sensible sole, produces navicular disease, only curable by an operation, and which fortunately is a simple one, in really sicentific hands, seldom failing to give relief. If the legs and feet be smooth, you may imagine that all is right in the fore part of the horse.

THE HOCKS.—Next examine the hocks; observe that, as you stand on either side of them, there be no projection at the back of the joint, called a curb; and, as you stand behind them, that the inside of the joint down below be free from little knots, or bony excresences, which are called bones spavins; and on looking at them in a slanting direction, that there be no tumor above, or blood-spavin. Look down between the horse's fore legs for these defects, as it frequently happens that they are better seen from that view. An enlargement of the cap of the hock does not often cause lameness, though it is a blemish; but enlargements on each side of it, which upon pressure fluctuate from the inside of the joint to the outside, are termed thorough pins, which are in fact wind-galls, and often cause very obstinate lameness.

THE HIPS.—Look that both hips be of the same height, as horses are met with having the defect termed down of a hip.

SHOWING.—Having thus examined the horse as

he stands, let him run down slowly on a rough or stony declivity, at the end of a halter, without any support to his head, or any whip near him. If he go boldly with his knees bent, and his foot flat and firm to the ground, without dropping his head, you may conclude that he is sound before; and if on running him up hill, he go with his hocks regularly together, and not dragging the toe, nor drooping from the hip, you may buy him as free from lameness. If he go pattering on the toe, and feeting, let him not be bought for a sound one.

LAMENESS—*How discovered.*—Take notice that in examining a horse for lameness, you may often detect it by only looking at his ears; for all horses that are lame before drop their heads when they throw their weight on to the sound leg; and those that are lame behind throw their heads up when the sound leg comes to the ground.

FENCING.—Whenever a horse stands in the stable fencing, that is with a foot out under the manger, it is a sign that something exists uneasy to him, and may give you a just reason to suspect unsoundness.

WIND.—With regard to wind, some horses naturally possess greater freedom of breathing than others; for instance, a horse with large, open nostrils, a wide gullet, a short neck, and a deep, wide chest, has generally superior wind to one of the contrary shape. There are two kinds of disease injurious to the wind: one is an affection of the wind-pipe, which creates whistling and roaring; the other an affection of the lungs, which produces broken wind.

The usual way to discover the first of these imperfections, is to go up to the animal in the stall, and taking fast hold of his head, flourish a stick about him suddenly, or strike him. If he groan, he is a roarer. But this method will not detect a mere whistler; the surest way, therefore is to gallop the horse with a bridle tightly curbed, and at the same time agitate him as much as possible. If he makes a wheezing noise, or blow with the same kind of sound as is produced by blowing upon a knife, placed before one's mouth, he is not sound in his wind. The state of the wind is sometimes ascertained, and with great accuracy, by the sound of the cough, and in the following manner:—Grasp the wind-pipe at the throat tightly, and them immediately let go the hold; the horse is sure to cough. If he cough bullily, that is if the cough sounds like the lowing of a bull, the disease I just mentioned is in existence. But this can not be often done with the same horse, or it would produce the very disease in question, and is, indeed, a method so delicate and difficult as not to be tried without express permission of the owner, nor with it if you possess any claim to humanity. If he cough short and hacking, the lungs are affected, and he is broken-winded; but if the cough be long and shrill, the wind is good. Be careful to leave hold of the wind-pipe the moment you have compressed it; for if you hold it long, the horse will cough shrill, even if he have imperfect wind.

Always gallop a horse as well as make him cough; a horse with the roaring or the short cough should be immediately rejected.

By making a horse cough, another advantage arises, viz., you may discover if he be affected with a cold; in which case, upon compressing the wind-pipe, he will cough repeatedly.—*Horse Tamer.*

BREEDING AND FEEDING PIGS.

THE London *Farmer's Magazine*, for June, contains a steel engraving of the small breed of "improved Cumberland and Yorkshire hogs," bred by Mr. GEO. MANGLES, of Givendale, Ripon, Yorkshire. They are entirely white, and models of symmetry and beauty. Mr. MANGLES furnishes a paper on the "Breeding and Feeding of Pigs," from which we make a few extracts:

"Abont ten years ago, I commenced pig-keeping on a larger scale than the generality of farmers. What I wanted, and what my farm required, was a quantity of good manure. I first tried buying stores in the neighborhood, but soon gave that up, as they were chiefly of the large breed, and required too much food and liberty. I had no alternative but to breed my own stores. With a view to find a profitable sort, I purchased a few of the best from different breeders of note, and kept them separate, and also a few stores of each sort together, living on the same kind of food. I also tried the different crosses; but, to get the cross, I must have pure stock at first; so I considered it best to keep to a pure breed. I tried the Essex, the black Leicesters, the Berkshire, the large Yorkshire, the small Yorkshire, and lastly the Cumberland small breed. I must confess that at the outset I had but little experience to guide me; not understanding the principles of breeding, I committed many foolish mistakes, which I paid dearly enough for; and if these few lines should meet the eye of any one wishful to form and keep a breed of pigs, I shall be glad for such a man to profit by the experience of another. I never expected pigs to live on nothing: because the manure made from pigs living on nothing would be worth nothing, and it was good manure I was aiming at. I found any breed pay, except the large breeds. All the crosses having the small breed for the sire always paid: whichever breed is intended to be kept, the best-bred ones should be obtained. I do not advocate breeding in-and-in; but I do advocate, if you want to maintain the same style of animal generation after generation, to cross with the same blood, but as far distant as you can get it. I do not know a better sign of pure breeding than a litter of pigs all alike, or three or four sisters breeding alike to the same boar. When the breed is obtained, one thing must always be kept in mind—the first boar a sow is put to influences the succeeding litters for three or four times.

"After the breeding come the feeding and attention. Milk and fat must go in at the mouth before it makes its appearance in the animal. I do not believe those who say their pigs get fat on nothing. I know from experience that one pig would live where another would starve, and what would take to make one large-bred pig fat, would make several smaller-bred ones 'up.' A great help to profitable pig-keeping is warmth, and confinement, and regularity in feeding; as by also keeping the skin of the animal clean by washing and brushing occasionally. If two animals of the same litter be put into two different sties, and have the same quantity of food each, the one that is kept warm and with the skin clean will gain more weight than the other.

I found that out, one winter, when Jack Frost was astir, before I put up a new pig-shed. My man was feeding a lot of pigs alike, only some were in common sties and others in a warm shed. The difference was very striking: those kept warm fed nearly half as fast again as the others. This induced me to build a long covered shed sixty feet long and eighteen feet wide, that would hold seventy porkers or fifty bacon pigs, where, when the thermometer has been below freezing point outside, it has inside been very warm and comfortable. The pigs have their food warm in winter, and are never starved by the cold; they are bedded with clean straw every other day, and the shed is kept rather dark. The manure made is of first quality and fit to use for turnips.

"Perhaps some of the readers of this paper would like to know something about the dietary of my pigs. I have not included sugar in my list of feeding ingredients. I have never gone higher than new milk, which they always take without sweetening. In the first place, I must say that I exhibit at a few of the leading agricultural meetings, and am generally, if not at the top of the ladder, not many spokes off. I keep my breeding stock different to my show stock, as I do not like breeding animals to be over-fat; but show animals are obliged to be fat, or the judges will pass them over. The over-feeding of prize animals is a very great evil, but one that can not be very well remedied. A show of lean breeding animals would be a very *lean* show indeed in many respects: an exhibitor must always sacrifice some of his best animals to please the public fancy. I think there is less risk in fat breeding pigs than any other animal. I have had several very fat sows pig, and never lost any. I gave them nothing but a very little bran and water a week before pigging, and but little after for a week, while I put a little castor oil in their food directly after pigging. I have the greatest trouble in reducing the male animals, as they will nearly hunger to death before they will part with their fat. I generally turn them into a large yard, and give them plenty of water and a wurzel or two every day, or turn them out to grass in summer.

To my regular breeding pigs and stores I am giving boiled rape-cake and barley-meal one feed a day, and one feed of raw potatoes or wurzel; and if in summer, I turn them to grass, or soil them with clover in the yards.

I soil a good many every year. A week or two before the sow pigs I contrive to put her into a loose box, with a railing around to keep her from crushing the pigs. I can always tell when she is going to pig by trying if she has milk in the paps: if a sow gives milk freely, she will pig any time. I then contrive to be, or have some one near at hand, to take the pigs away as she pigs them, as the sows are sometimes uneasy and will crush them. After she has pigged, I feed her with warm water and bran, and then give her the pigs and leave them, because the less they are disturbed the better. I always feed the sow sparingly at first, as I have sometimes found, when a sow has been fed too liberally at first, the flow of milk is greater than the pigs can take; consequently the ure becomes hard, and the sow is very uneasy, and will scarcely let the pigs suck her. If such is the case, the best way is to rub the ure well with the hand three or four times a day. Small-bred sows are commonly very quiet and tractable.

Generally when the pigs are three weeks or a month old, they will scour, if proper care has not been paid to the sow's feeding. I never could get a man that could get me a litter through without scouring. I have tried different plans, but the one I have found most successful is to always give the sow a tablespoonful of the following mixture in her food: Mix together 2 lbs. of fenugrek, 2 lbs. of aniseed, ½ lb. of gentain, 2 oz. carbonate of soda, and 2 lbs. of powdered chalk. The sow gets very fond of this, and the little pigs, too, like it. Give the pigs also plenty of cinder ashes to root amongst. I prefer oats, wheat, and a little barley ground together, for sows giving milk. I have never tried the sugar diet, but I have found new milk fresh from the cow work wonders in a short time.

Warmth, cleanliness, and regularity in feeding, a little good food and often, are the main secrets in rearing young pigs. I never like to see food left in a pig's trough: just give what they can eat up and no more. When pigs are put up to feed they should be kept warm and quiet. Five porkers or three bacon pigs are plenty together. The pen they are kept in need not be very large, but the pigs should be wrung, and a little fresh bedding spread about them every second day. Pigs like to be kept warm, but plenty of fresh air must be allowed to circulate through the pens, or else disease will soon show itself.

A CANADIAN MACHINE IN ENGLAND.

THE following accaunt of a "combined plow, drill and harrow," the invention of Mr. SOVEREIGN of Canada West, we find in an English paper:

It is a curious point in the economy of nations, that there is a period when the deficiency of unskilled labor in the highly civilized mother country subjects it to the same inconveniences and wants as are felt in the early agriculture of its colonies from their sparse and scattered population. Hence the implements and machinery for economizing labor become equally valuable and necessary to the one as to the other, and the colony may be of infinite service to the old country by communicating such tools of simple and cheap construction as necessity, the mother of invention, has brought into daily use in its rough-and-ready agriculture. Such an implement was the reaping machine, and just such another is the "combined plow, drill and harrow," which has been some time in use in the Canadas, but the powers of which were tested for the first time in this country in a field at Peckham Rye, on Thursday last.

If any of your farming friends in the midland counties had been told that on that day they would see five furrows made by one plow driven by two horses; that the same plow, at the same time, drilled and sowed with barley and clover, and also harrowed the land by the same action, turning over each furrow on to the seed, and covering it completely out of the reach of birds, and that it was demonstrated that work like this can be done at the rate of five acres a day, with a saving of 4s. ($1.00) per acre, and this with an implement

strong and simple, not at all "gimcracky," or encumbered with mechanism, almost as plain as a bush-harrow on wheels, weighing only five cwt., and nothing about it that a common tool-box does not afford the means of repairing in case of accident—why, your friends of the midland counties would hardly have contented themselves with simply denying the possibility of such a performance. But it was done, for all that, on Thursday, in a field a Peckham Rye, to the surprise and satisfaction of several practical farmers. A description of this remarkable implement for the first time exhibited in this country, may therefor, not be uninteresting.

The combined plow, drill and harrow consists of five plow shares placed transversely on a frame, consisting of five longitudinal beams, carried by three wheels, one running in the furrow, and two supporting the frame. By means of a lever applied to these wheels, the depth of plowing may be regulated. The plowshares are made of cast steel, as are also the breasts or turn-furrows; thus ensuring strength, with a lightness which materially lessens the draught. The apparent mechanical difficulty of working five plows together, with so small a power, is thus cleverly and practically got over. The ordinary line of draught is entirely altered by the plow-frame being, as it were, suspended on three wheels, so that the friction of the weight, in place of being entirely on the wedge itself, or plowshare, which has to be drawn along against the resistance of the soil, a very large portion of that friction is carried off in the revolution of the wheels. In the ordinary plow with two wheels, the friction of the weight is on the land, and increases the draught. The difference will be immediately understood by first attaching a line to a weight, and drawing it along the ground, and then suspending the same weight between two wheels and drawing it; in fact, all the difference between the traction of a wheel-carriage and a hurdle. Thus far as to the five plowshares, evera one of which made a straight furrow, and turned it over well and evenly.

Next, as to the drill. Fixed upon the frames above are two boxes: one for any character of the larger seed, from beans to wheat, and the second for sowing broadcast clover seeds and the like. There is a peculiar simplicity in the arrangement for depositing the seed. The mere turning of a screw by the driver acts on a slide, by a wedge, and so, without the slightest complexity, regulates any given quantity to the acre, while at the same time the very simple means of a copper slide to each conductor enables the driver at any moment, with the utmost ease, to stop the supply of seed, and to regulate the number of rows he may wish to sow at one time. The advantageous simplicity of this arrangement will strike the practical farmer at once. The second box is arranged with copper regulators, to sow any description of grass seed.

A pair of light harrows were fixed at the end of the implement, and completed the plowing, sowing and harrowing at one operation.

Nor is this all; for the frame is so arranged that the plows may be taken off, and scarifier, hoes, or cultivators attached in their stead. Double-breasted plowshares can also be used on the same frame for ridging purposes.

The land on which we saw this implement tried was wet and heavy; but as it can plow any depth of soil from one inch to six, it went through its work well. On lighter soils it is likely to be more extensively used; and, to say nothing of its powers as a light plow, it must certainly take the lead among all machines for drilling.

The implement tested, which may be called a universal tool for all tillage purposes, was manufactured by Chubb & Smith (late Mary Wedlake & Co.), from models supplied by Mr. Sovereign, of Western Canada, from whom it will bear the name of "The Sovereign Drill Plow."

FARMING WITHOUT MEANS.

A CORRESPONDENT of the *Country Gentleman* was storm-bound by swollen streams, ice and rain, and sought shelter in the house of a farmer, who told the following story of his success in farming:

"I came upon this farm (50 acres) two years ago next May, and at that time all the property I had in the world was one horse—not a plow, drag, wagon, sleigh, or harness. Indeed, had the man of whom I rented the farm known my condition, he would have passed me by for a better tenant.

I went to a man who was extensively engaged in the lumber business, told him my story, asked him to sell me a horse on time. He sold me the horse, and I gave him security on the horse for his pay.

I went to the harness-maker for a set of harness on time, offering to give him security on the horse I formerly owned, and on the harness itself; but he not liking to sell a harness on these terms, I again applied to the man who had sold me the horse offering him the same security, which he accepted, and got me the harness.

I also told him that I must have some seed barley. He let me have forty bushels, agreeing to take security upon my share of the barley (one-half) upon the ground. He would not accept the security, however, after the barley was sown; but in the fall, upon settlement, charged me five shillings per bushel and interest for the seed barley, and took barley of me at eighty cents per bushel for pay. From the seed sown I harvested over five hundred bushels of barley, which I sold at eighty cents per bushel; and this, with other grain I managed to procure and sow, left me at the end of the year very well satisfied with the fruits of my labor.

In the fall I attended an auction sale and bid off forty very fine ewes. The man, supposing I was another individual of the same name, did not ask me for an endorser, so I gave him my note for one year. In a few days, however, he ascertained the mistake, and came to see me. I satisfied him by giving security on the sheep, and stipulating that the proceeds of the wool and lambs should be applied on the debt. Giving the sheep good care through the winter, I paid the debt with the wool and lambs, and had ten ewe lambs left besides; so that I have now a choice flock of fifty sheep worth at least two hundred dollars. During the last summer I kept my sheep on four acres of clover grass, and fed them clover hay, well cured, besides, through the entire summer, and I never saw sheep do better.

Last fall I fattened thirteen hogs; the lightest weighed 250 lbs., and the heaviest 350.

Now, I have been figuring up how much I have cleared in less than two years; after deducting the expenses and paying one-half of the products for rent, and placing the personal property at a low estimate, I find I have cleared full $1,200.

A few weeks ago I took a trip to the West, and purchased a farm of 160 acres, a short distance from the village of St. Johns, Mich., making payment quite a number of years in advance. Before leaving for home I was offered $800 for my bargain, but refused. In the spring I shall sell out my grain on the ground, take my sheep, team, wagon, and other moveables, and depart for my new home."

The narrator concludes:—"I must confess I was deeply interested in this statement, every word of which I knew was true. In the morning he took me to see his stock, and a finer, more thrifty flock of sheep I have seldom seen, while the remainder of his stock exhibited the same evidence of their owner's care."

This is a very good story, but we think "farming without means," as a general rule, very unprofitable business.

WHY DON'T THEY FARM BETTER?

We have lately visited a district where routine farming has done its worst, and where improved husbandry has not yet removed the footprints of the Spoiler. The desolations of war are not half so hard upon land as the spoliations of these peaceful Goths and Vandals, whose weapons of destruction are the plowshare and the scythe. The invading army kills cattle and men, and sometimes burns dwellings and barns. But the following year beholds the dwellings rebuilt, and the pastures again stocked with cattle. But what long periods it takes to restore the ruin of an improvident husbandry. An army of land-skinners, holding possession for a single generation, makes the land so poor that it will sustain neither cattle nor men. They turn regions of plenty into the barrenness of a desert.

Here are thousands of acres of once fertile land, so stript and plundered that grasshoppers would starve upon their scanty herbage. They were once covered with heavy timber, oak, chestnut and hickory, which never grow upon poor land. When the forest was cleared, wheat, corn and potatoes grew as luxuriantly as upon the prairies of the West. That virgin soil would be worth a hundred dollars per acre to-day. The denuded subsoil can now be had for ten dollars per acre, and is dear at that.

Just examine an acre, and you shall find full one-half of it bare patches, with not a weed or living thing upon it. Here is a cluster of starved five-fingers, there a stray stalk of pennyroyal, and yonder a patch of moss. Here is a last year's mullein stalk, and around it a patch of starveling young plants, struggling between life and death; and there is a solitary spear of grass making an abortive attempt to blossom. It will never mature seed. There is not a solitary clover plant or blade of herdsgrass on the acre.

But here is an adjoining patch, that they dignify as mowing land. There is grass here, for the land has had within the last three years five loads of manure to the acre, and from this little stock of fertility a crop of corn and oats has been taken. But what grass! It will not yield more than half a ton of redtop to the acre, which barely pays the expense of harvesting. The pasture is kept so wretchedly poor that ten acres would not feed a cow during the summer. White birches and scrub oaks, the inevitable sign of hard-used land, are intruding upon these old pastures, as if to hide their deformity.

The land nearer the barn of course gets a little more manure, and looks a little better; but even here, thirty bushels of corn to the acre and a ton of hay is more than the average yield.

Now what are the people thinking of, that they don't farm better? It may be that some of them do not know any better. For agricultural journals are by no means universal in this region, and model farmers are few and far between. But still some of the people do take the papers, and there are a few who farm well, raise premium cattle and crops, and exhibit them. It must be that this people have a great deal more light than they make use of in their business.

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They have no faith in farming as a paying business. So they do not invest any surplus capital in barn cellars, in subsoil plows and drain tile, in muck swamps and bone dust, in improved stock and seeds. They regard the capital invested in land as a very sure thing, because the land will not run away. But capital invested in the improvement of the land they look upon as very insecure.

We have been trying for a twelvemonth to get a man of capital to reclaim a few acres of light sandy loam, within a few rods of his barn, and immediately adjoining a good deposit of muck. The land, as it lies, does not pay him the interest on five dollars an acre. The drawing of muck and the grass seed might cost him twenty dollars an acre. This would make the land worth at least fifty dollars an acre, for it would pay the interest on that sum, if kept permanently in grass. The nearest to success we have come was to secure an outlay of fifty cents for grass seed, which was duly sown upon the sand and harrowed in. The very condition in which we had promised success, viz., the spreading of the muck, was omitted. The seed will probably spring up, and wither in the drought of summer for want of earth, and confirm the experimenter in the belief of the utter unprofitableness of farming.

These poor worn-out lands want manure, in some form, and must have it, or they can never be made profitable. Some of them, those which lie remote from muck swamps and the barn, can best be renovated by plowing in green crops, buckwheat or clover. Others can be economically reclaimed by muck and stable manure. The foundation of profitable farming on these lands lies in the manure cellar. Money invested in a manure factory, and the materials to run it, will be well invested. If managed with only tolerable skill, we will warrant it to pay better than any bank stock in the State. With this and the muck mines, forty dollars worth of manure may be made annually for every cow, horse or ox upon the farm, if kept in the stables, or half that sum if pastured in summer. More faith in the business would make much better farming.—*Ct. Homestead.*

GRAPE GROWING IN THE WEST.

One of the most interesting places we visited during our late trip West, was Dr. Schroedel's vineyard, at Bloomington, Ill. Dr. S. is a Prussian by birth, a practicing physician, and a most intelligent and enthusiastic horticulturist. His vineyard occupies about three acres. It is situated on a rather steep slope with an eastern exposure. The soil is a rich sandy loam. After passing over so many thousands of acres of untilled land, it was refreshing to visit a spot so thoroughly cultivated and so fully occupied. No London market gardener could be more economical of space. Every inch was made the most of. He has now growing some six thousand vines, and most of them showing fruit this season. Between the grapes were rows of *Tom Thumb* peas—decidedly the best dwarf pea we have ever seen. It was not over six inches high and was literally covered with pods of good size. The peas were being gathered at the time of our visit (June 14). They were sown on the 20th of April. Cabbages, cauliflowers, cucumbers, and all kinds of garden vegetables were there in the highest perfection. Not a weed is permitted to grow. That big, heavy Dutch hoe, strong enough to hack up a pavement, has no rust upon it. It is kept bright with constant use.

The vines are planted in rows from four to six feet apart, and from four to six feet in the rows—according to the vigor of the variety. Dr. S. has planted some vines even closer than this, by way of experiment, but he finds such thick planting is not desirable.

Dr. S., like all intelligent cultivators, believes in thorough preparation of the ground before planting—and in good cultivation afterward. Along the row where he intended to plant his vines, he dug trenches full two feet deep, and placed bones, horns, hair and refuse matter from the slaughter house—rich in nitrogen—at the bottom. On the top of this he placed a layer of sods and covered with good soil mixed with compost. The vines now growing are such as might be expected from such treatment—as healthy and luxuriant as could be desired.

Dr. S. is testing a great number of varieties. He has over 80 kinds now growing, most of them, of course, only by way of experiment. The larger part of his vineyard is occupied with Catawbas, but he has some 800 vines of Herbemont, 800 Norton's Virginia, and 1,000 Concord. The latter he speaks very highly of, but the two former are evidently his favorites. The origin of the Herbemont seems to be uncertain. Dr. S. says a German by the name of Habermann obtained it from a friend and planted it in a vineyard belonging to Mr. Longworth, of Cincinnati. It proved to be a most excellent grape, and one day attracted the attention of Mr. L. He asked the name, and Mr. Habermann said he did not know any name for it, so he called it *Habermann*. "Oh," said Mr. L., "that is a very bad name. Call it *Herbemont*." It is, in Dr. S,'s opinion, *the* grape for the Southwest—a vigorous grower, productive, of good size and excellent quality, and it has this great advantage in sections liable to late frosts, that it is later in starting in the spring than any other variety, and yet it ripens ten days earlier than the Isabella—say, at Bloomington, from the 15th of September till the 1st of October. It needs protection in the winter, but Dr. S. does not think this much objection—the Catawba also needs protection, or at least is much better for it. All that is necessary is to take the vines from the trellises, lay them down on the ground, and throw a little soil over the ends, just sufficient to keep them down. They do quite as well, or better, in this way than when covered all over with soil.

Dr. S. speaks highly of the Concord and Delaware. The Delaware ripens with him, as with us, earlier than the Concord, but the latter is a splendid grape.

HOT-BEDS WITHOUT MANURE.

In so large a country as this, with such varied localities, it must be that gardeners, in many places, are often at great expense and trouble to procure fresh manure in sufficient quantities to enable them to prosecute their labors successfully; and oftentimes, no doubt, many operations and enterprises are neglected which would be carried into effect if hot-beds could be easily and cheaply made.

In country places, remote from villages and towns, manure is scarce, and in large cities it is usually so costly as to render it almost unavailable for ordinary purposes of propagation.

Many experiments have been tried in view to obtain some substitute that could be relied on for this purpose, but with few satisfactory results.

The method which we here give is that of F. Boucherie, of France, published in the *Revue Horticole*, and is highly recommended by him for its cheapness and efficacy.

It is, to use his own words, as follows: "Dig, first of all, a trench 10 feet long, 5 feet wide, and 20 inches deep. This trench forms the bed for the materials. If, however, you wish to raise the bed above the level of the soil, you can, with some stakes and old boards, build a kind of box which will hold it. This done, we strive to collect together on the spot the necessary materials to construct the bed itself.

Procure, 1st, 300 to 500 lbs. of straw, or of old hay; or it may be of litter, or of well-dried moss;

2d, 1½ to 1¾ bushels of powdered quick-lime;

3d, 1 lb. 4 oz. muriatic acid, diluted in 20 gallons of water;

4th, 1¼ lbs. saltpeter, dissolved in 27 gals. of water;

5th, A new broom, or one nearly new.

Spread over the bottom of the trench a layer of straw, or whatever the material may be, about eight or ten inches thick. Sprinkle it with the quick-lime. Dip your broom into the vessel containing the muriatic acid diluted with water; then sprinkle this first layer; after which you

shall make a second one of the same thickness. You shall scatter upon it the lime, and you shall sprinkle the diluted muriatic acid in the same manner as before.

Make at last a third layer of straw, of less thickness than the first two (say 4 or 6 inches only), and wet it with the water in which you have dissolved the saltpeter; but shake up the bed often, and pour it upon it, so there may be absorption by the lime, which will evaporate a good part of the liquid in parting with its heat."

After this operation, the frame can be placed upon the bed, a few inches of earth spread inside, and as soon as the extreme heat has subsided, which will be in two or three days, it will be ready for use. Beds formed in this way will maintain their heat from four to six weeks.

The cost of the materials here specified, without the straw or old hay, which in most places may be had with little or no trouble or expense, is as follows:

1½ bus. quick-lime. 30 cents.

16 oz. muriatic acid, 6 cents.

1½ lbs. saltpeter, 15 cents.

1 broom, 25 cents. A bundle of twigs, bound together with a withe, is best for this purpose.

LET US TAKE A WALK IN THE GARDEN.

"These fuchsias are doing well."

"Yes. They like a partially shaded spot, and this is so much shaded that few other flowers will succeed upon it. Next year I intend to plant a great many more here, as there is nothing more beautiful."

"Are the plants difficult to keep through the winter?"

"They can be kept in the cellar, much easier than the verbena or geranium. Take them up in the fall, shorten in the branches so as to preserve the pyramidal form as much as possible; put them in a box, and cover the roots with sand."

"What splendid verbenas! They fairly make my eyes ache; the colors are so brilliant."

"They have been watered repeatedly with sulphate of ammonia, and had also a good dressing of superphosphate. The ammonia seems to have a wonderful effect—causing them to grow rapidly and flower profusely. Keep them pegged down, and they soon throw out roots and take full possession of the ground."

"This is a fine lot of *Early York* cabbage."

"The seed was sown in the open ground, not in a hot-bed, and yet we have had cabbage for a fortnight past. They beat the *Winningstadt*, for all they were raised in a hot-bed; but as the latter were planted between the rows of peas, they had not so good a chance."

"Cabbage between the peas, and now the peas are off, celery between the cabbages!"

"Yes. Few people know how much can be obtained from a small plot of land. I had radishes, cress, etc., this spring, on this land where the cucumbers are; and here where the tomatoes are, on this warm border, I had the beds of young seedling cabbage, cauliflowers, etc."

"Does the aphis, or plant-louse, trouble your cauliflowers?"

"Not much; the plants grow so vigorously that they can do little damage. If you see a leaf beginning to curl, open it and kill the lice with your finger. It is very little trouble. The black fly has been more troublesome this season; and I do not know of a remedy, except to keep the ground well hoed, and the plants growing as rapidly as possible."

"These cucumbers are looking well, and here is one ready to cut."

"That hill was transplanted, and yet it is the best and earliest in the garden. It is not owing to the transplanting, however, but to that row of currant bushes, which keeps off the cold west wind. Nothing like shelter. See, too, the influence of a glass frame on these melons. Even a slight frame of boards, without any covering, is a great help. Every gardener should have some wooden boxes, either open at the top or covered with gauze, to put round the melon and cucumber hills. They keep off the cold winds and the bugs. The effect will surprise those who have never tried them. But powdered hellebore, scattered on the plants, will drive away the striped bug. It is the only thing, too, that will banish the caterpillars from the gooseberry and currant bushes."

"How about grapes?"

"There will be but a light crop this season. This vine last year bore a good crop, and now there are but few bunches. This vine which is allowed to run up into that old tree, was loaded last year, and now there is not a single bunch. 'Slovens do well once in seven years.'"

"These bunches are beginning to show signs of mildew."

"That is the first mildew I have seen this season. I will dust them with flowers of sulphur, and that will check it to a dead certainty."

"Is sulphur always efficacious?"

"I have never known it fail when applied in season. Scatter it freely and repeatedly on the bunches and leaves as soon as the first symptoms of the mildew are seen—or before—and you need apprehend no loss from mildew."

"What have you been sowing between the rows of beans?"

"Turnips. The beans will soon be out of the way, and the turnips will then have plenty of room; and if thinned out and hoed, will produce a good crop. People frequently try to raise turnips without hoeing; but in nine cases out of ten they fail."

PHYGELIUS CAPENSIS.

We stated last summer that this newly-discovered perennial wintered perfectly well out of doors the previous winter, without protection, and we deemed it quite hardy. The past winter, however, which has been so severe on many things considered hardy, has also killed many of these plants, though not all; and we thus have precise knowledge of the degree of cold which it will bear with impunity.

It will be safe, probably to say, that when the temperature does not descend below zero, it will not suffer. Even 4 degrees below was sustained by it, in the winter of 1860, without injury. With the protection afforded by some straw or litter thrown over the plant, in the fall, there will be little danger of losing it in the open ground.

Mr. J. Conklin, of Parma Corners, in this county, raised this season 45 quarts of strawberries from a bed 7 feet wide by 20 feet long. This is at the rate of 487 bushels per acre.

Lime for Old Gardens.—A correspondent of the *London Florist* says: "Old gardens are frequently unproductive through being manured, year after year, with the same kind of manure, and growing the same crops. In such cases the vegetables are rank in growth and ill-flavored, potatoes and other roots watery and liable to disease, and peas and beans unproductive, and cauliflowers and cabbages subject to club disease. When such is the case, use no manure for a couple of years. The first spare ground you get, trench it two spits deep, if the ground will allow of it, and thoroughly mix with the earth, as you turn it over, a good dressing of fresh slacked lime—the fresher the better. My plan is, when the top spit is thrown to the bottom of the trench, to throw over the hot lime and fork it in, and to repeat the dose of lime over the lower spit thrown to the surface. Employed in this way, lime acts as a complete renovator of old and over-manured soil, as the produce afterward will show. The second year I repeat the lime-dressing (about half the quantity of the first year), forking it in instead of digging the ground, as by that means the lime becomes more completely mixed with the soil. I add, also, to the lime a surface of road scrapings, if the ground is heavy or inclined to be so. By these means, giving up manure for two years, I have succeeded in bringing an old garden soil, which would positively grow nothing at all, into first class soil, producing good crops, and of the best quality.

Ailanthus on Blowing Sands.—Count Lambert, a great Russian landed proprietor living at Odessa, has a considerable quantity of land that consists of a blowing sand one foot deep resting on solid rock. After trying Pinasters and Acacias for sixteen consecutive years without success he has at length succeeded in fixing it by the aid of Ailanthus. How the work was accomplished does not appear, but from the expression "On fait chagne annee des semis" (they make every year of the *seed-bed*) it seems probable that the land was sown directly with the seeds of Ailanthus. The roots of Ailanthus which spread with great rapidity have taken full possession of the land and these hitherto unmanageable plains are now solidified and covered with an almost impenetrable forest. Others in the neighborhood have resorted to the same means and the tree has been increased "prodigiously." Ailanthus or "tree of heaven" is a native of China. Measures have been taken to introduce among the plantations the new silk worm from Japan which feeds upon it.

To Preserve Cut Flowers.—Plants like animals have an insensible perspiration. The water lost by this perspiration is made good by the absorption of the roots and also through the pores of the skin. When the roots are removed the evaporation of water goes on, and the supply being cut off the plant withers. To keep cut flowers fresh, then, we should aim to check this perspiration, and to give them the means of replacing the waste by the absorption of water through their skin in the form of vapor or otherwise. This is best accomplished by placing them in water, and covering them with a bell-glass the rim of which is surrounded with water. This keeps the air in the bell-glass saturated with moisture and the flowers will keep fresh for a considerable length of time.

Preserving Grapes in Bran.—A correspondent of the Michigan *Farmer* says: "Some time towards the end of last September I received some grapes packed in bran from a correspondent, who wished me to give him their names. There were two bunches—one of the white Frontignan, the other royal muscadine. A few grapes were taken from each bunch, to ascertain their names; the rest were replaced in the box and covered with the bran, which had apparently been sifted, as it was very coarse and free from particles of meal. The box was closed, and placed on a shelf in my library, near the chimney. A good fire was kept in the room all the Autumn and Winter, up to the present time—the box quite forgotten. To-day (March 28th,) it was by chance opened, and the grapes found to be perfectly sound, but like *green* raisins, and most delicious; the Frontignan flavor quite apparent in one sort, and the muscadine flavor in the other. This is really a pleasant discovery; for how agreeable it will be to have our grapes, or rather these home-grown raisins, at Christmas, without the trouble of preserving them on the vines, which, as we all know, requires much care and attention. It seems to me, that in a grape season, when grapes on our walls are plentiful, we have nothing to do but to dry a quantity of bran, sift it thoroughly, and then place our grapes in it in closed boxes, placing them in a dry warm cupboard or on a shelf near a chimney. Grapes from our vineries may, of course, be preserved in the same manner; but such large juicy sorts as the black Hamburgh will, probably, require looking to if the experiment is tried with them. At any rate, the experiment is simple and inexpensive. In preparing bunches of grapes to be preserved in bran, it occurs to me that the berries should be thinned, so as not to touch each other; the bran will then inclose each berry, and the gradual drying will preserve them effectually."

A Long Island Market Gardener.—Mr. Chas. Backus, a Long-Island farmer, has under cultivation eight large farms devoted to raising vegetables for New York market. During the past year he has raised forty acres of potatoes, fifteen to twenty acres of parsneps, carrots and beets, fifty of corn, eighty of cabbages. One hundred acres are devoted to asparagus, and forty to currants. Three and a half acres are under glass, for raising early salad, radishes, cucumbers, etc. From three hundred to three hundred and fifty laborers are employed in the summer season, and twelve large wagon loads of produce are every day sent to the city. His business in a single year amounts to $100,000. Only thirteen years ago two wagon loads per week were the whole amount of produce raised by Mr. B., who has every year since extended his operations, until they now probably exceed those of any market gardener in the Union.

Bouquets Decorated with Parsley Leaves.—A correspondent of the London *Gardener's Chronicle* recommended common parsley instead of ferns for decorating bouquets. A gardener tried it and gives the result. He says:

I made a very nice bouquet, put common Parsley round its edges, and sent it to my lady, who to my surprise returned it to me with these words written on a small strip of paper. "Lady ——— sent for a bouquet, not for Parsley for the cook, and hopes that this mistake will not be made again."

FRUIT CULTURE IN ILLINOIS.

An esteemed correspondent in Northern Illinois writes as follows:

It is a matter of sincere regret that so little has been done here in the cultivation of Pears. The climate, as you are aware, does not favor the cultivation of the Heart Cherries; yet the varieties of the Morello family are both hardy and productive, and some of the Duke Cherries do well.

We are yet in our infancy in fruit growing. We were set back ten years by the extraordinary winters of '55 to '57. Nearly all the Pear trees were swept away, and a great portion of the Apple trees were either killed or marially injured. Had prompt action been taken, and the injured trees immediately removed and good trees put in their places, the evil would not have been so severely felt. But the opinion seemed to prevail, that fruit-growing here was to be a failure; and so a paralysis seemed to seize the minds of the many, from which it will take many years to recover. But we learned much from the lessons taught us by those winters. One thing is, that high, dry and protected locations are more favorable for fruit culture of any kind than low, moist and exposed situations. Also, that the most hardy varieties of fruit should be adopted for general cultivation.

There are some varieties of Apples, Pears and Cherries, which were scarcely affected unfavorably by the winters referred to. These were generally such as are habitually slow to start when spring arrives. Among the latest that push their leaves in the spring are the *Northern Spy* and *Tolman Sweet*. Yet we are not to cast away the many valuable varieties which were injured during the terrible ordeal of those winters; for many of them were never before injured, and probably never may be again. Many orchards escaped unharmed, but were always on the timbered lands and in protected situations. The timber lands here are free from the black rich soil of the prairie, and much resemble your lands in Western New York, and alike adapted to fruit culture. Such is very much the character of our prairie soil, when we remove one foot of the surface soil. To remedy this difficulty, a deep plowing of sixteen to twenty inches, mixing the surface and subsoil, is necessary; yet twenty to twenty-four inches is often necessary; and unless the land is naturally dry, a surface under-drainage is necessary. With this preparation, both apples and pears succeed admirably. The strawberry culture is receiving considerable attention. There is considerable complaint of the bark-louse; this is well remedied by the cultivation of the orchard with an annual crop of buckwheat.

PROPAGATION OF GRAPE VINES.

The propagation of grape vines is by cuttings and layers. A cutting may contain from one to four or five eyes, according to the distances they grow upon the canes. Cuttings with single eyes are generally forced into growth in hot-houses, and those containing several eyes are grown in out-door culture. The single eyes, however, may be made to grow in the open ground, with almost the same facility that is done in a hot-house. I have grown the Concord grape cuttings on this system with perfect success, during a series of years. I lay them horizontally in beds, about two inches apart, covering the bed all over; and then I covered the cuttings about two inches deep with soil of a nature that does not bake hard after rains, and thus hinder the growth of the rising shoots. If the natural soil of the beds is too clayey, the earth used for the covering should be procured elsewhere.

Having experimented on the *depth* of planting cuttings in a horizontal position, I find that less than two inches exposes them too much to the drying influence of the sun and air. In hot-house culture a covering of one inch is sufficient, because a man is constantly ready to keep the plants moist; but in out-door propagation we have to trust more to nature, and the consequence is, that the cuttings should be covered deeper. I have even laid them *six* inches below the surface of the soil and had the shoots grow to the surface; but that is too low, as many of the buds, after reaching two or three inches in their upward growth, rot off at the upper ends and die, owing, as I presume, to being exposed to too much dampness, without a corresponding degree of heat.

When cuttings are propagated on the above system, it is necessary to keep the ground constantly moist by applying water at evening, unless the season is sufficiently rainy to render such a proceeding superfluous. In July they begin to root freely, when they will stand a severe drouth without much injury.

There are some varieties of the grape that are propated with difficulty on this plan; among which is the Delaware, which requires artificial heat in order to secure a rapid and successful growth. Last season I planted a bed of Delaware cuttings on this plan, in the same bed with some Concords; both received the same treatment, and not one of the Delawares grew, while complete success attended the Concords.

The hot rays of the sun are injurious to the tender leaves of cuttings; and it often happens that the buds break fresh, but the heat of the sun soon dries them up, from which many never recover. It is, therefore, good management to plant cuttings on the north side of a building or fence, where they will be shaded from 10 to 3 o'clock. When this is not practicable, if the bed be small it may be protected by an awning made of cotton cloth, the corners tied to stakes about a foot above the ground.

The vines require no training or pruning the first season; all that is necessary to be done is to keep them free from weeds, and let them grow at random. In the fall of the year they should all be dug up, placed in a heap upon the ground, and covered about six inches deep with earth. If the ground is not subject to have standing water upon it in the winter and spring, I generally make an excavation about a foot deep; then place a layer of vines, which I cover with dirt; then another layer, which I cover in like manner, merely putting on earth enough to fill in the interstices among the roots, and thus layer after layer is covered till the heap is completed. In the spring, they may be uncovered at any time in April or early May, and set out where they are designed to grow permanently, or where they can have a good year's growth or more before being set where they are to bear fruit. For this purpose, let trenches be dug about eight inches deep and a foot wide, and about two feet apart. Then set the vines in these trenches, three or four to the running foot—not necessarily in a straight line, but filling up the entire width of them, leaving a space between the rows sufficient to walk between them and hoe them out.

If the vines are left in the ground all winter, as they grew the first year, they would be killed down to the roots by the weather; and as it is not desirable to allow them to grow the second year in the same place where the cuttings are set, owing to being too close together, I recommend taking them up in the fall, as above set forth.

Long Cuttings.—Where cuttings are abundant, the one-eye system may be discarded, and the more common method of propagation adopted, which is to set cuttings in an upright position, with a foot or more of wood to each below the surface. On this system a large portion of them will generally grow, without artificial watering.

Having a small vineyard of about 500 vines of the Concord grape, from which I took 30,000 long cuttings last fall, each with from two to five eyes, averaging from 12 to 18 inches long; and being desirous of planting them at the least possible expense; and having no time nor inclination to adopt this *one-eye bed system*, and water them by hand in dry weather, I set them out in a field as follows:

First, the ground was plowed with a double team about 15 inches deep; then furrowed out for the rows, three feet apart, with a one-horse plow, running three times in each furrrow. The cuttings were then set in these furrows on an inclination of about 45 degrees, so that the upper buds of each should be just below, or not far above the surface of the soil—it not being practicable to have perfect uniformity on this system; but it is best to have the upper eyes of such cuttings about half an inch below the surface of the soil, when it is practicable to do so, though some grape-growers think that it is about as well to have them just above the ground.

I had my cuttings set by boys at 50 cents wages per day, each setting about 5,000 daily; and as fast as set I was present to cover them with my horse and plow, after which the ground was evened by hoes, finishing up by treading the earth firmly around the cuttings. On the usual system adopted by horticulturists, the ground would have been trenched with a spade, and the whole operation performed at four times the expense that it cost me.

The cultivation of these cuttings consists in running a cultivator between the rows on two occasions, with a slight hoeing out of the larger weeds, the smaller ones being left to shade the young vines; and lastly, a heavy drill of corn sowed between the rows for fall fodder.

The drouth which we had here in June was very severe on the cuttings; but the system of cheap planting, with the extra corn crop between the rows, now strikes me as one that I shall never discard.

I found that the inclination (45 degrees,) that I gave my cuttings was too much to stand a drouth well. It is better, I now think, to set them as nearly vertical as possible, and fill in the earth around them to hold them in position as fast as they are set. I set them about two inches apart; and as in no case will all of them grow, I think they may be set in that manner, without any injury to their growth from closeness.

The cuttings were prepared last fall, cut as soon as the frosts had killed the leaves of the vines, about Nov. 1st, and secured for the winter as follows:

First, a layer of cuttings about four inches thick was laid upon the ground, in the form of a bed, 6 feet wide and 20 feet long. These cuttings were then covered with earth — merely enough to fall in among them and leave no air-holes inclosed; next followed another layer, which was also covered in like manner; and this system of courses continued till the heap was four feet high, when it was covered sufficiently to protect the cuttings from any exposure during the winter and spring. They kept in excellent condition, and a greater percentage of them grew than I ever before had grow from cuttings saved in various ways, according to the rules of the best grape-growers in the country.

If cuttings are left and cut in the spring, they will grow equally well; but the vines will bleed badly, and it is better management to cut them in the fall.

LAYERS.—It is decidedly the best way to produce strong, young vines, to propagate them by layers; but every person who has cuttings in abundance does not always have vines in a suitable condition to propagate by layers, as they interfere considerably with the crop of fruit that may be grown from the present vines. If, however, the propagation of the layers be of more importance than the fruit, let the layer system be adopted. In the fall, when pruning the vines, select such canes as shoot out near the ground and can be laid down easily, and in the spring make a slight excavation in the ground for each cane, about three inches deep, into which lay the canes, and fasten them down by wooden pins made by splits from shingles, and then cover them with earth; and each living eye will produce a vine as large, in many cases, in one season, as is made on the cutting system in two or three years.

T. B. MINER.

Clinton, N. Y.

NOTES FROM CANADA.

EDS. GEN. FARMER:—Taking a flying trip through part of the Queen's dominions, I thought that a few notes from this part of the world might not be uninteresting to some of your readers.

The crops in general looked well, but seemed as if they wanted rain — which, since then, has fallen in copious quantities. In the Niagara district, wheat (July 4th,) was nearly fit to cut. The fruit crop seems to be short, with the exception of apples, of which there will be plenty. Cherries are quite a failure; plums nearly the same. Peaches will be a short crop. Strawberries plentiful, but small. Grapes about an average. Gooseberries large and fine. Currants very plentiful.

Horticulture seems to receive more encouragement in Canada than in the United States, and many very finely kept private gardens are to be seen. There was a Horticultural exhibition in Toronto on the 11th and 12th of July, at the Society's Gardens, which was a very nice affair. Some of the plants were fine specimens and well flowered, and the display of cut flowers was very good, and consisted of Roses, Verbenas, Annuals, Herbaceous plants, Flowering shrubs, etc. The Gardens are finely laid out and well kept, and would be a credit to any city; but the display of flowers was quite meager. However, the Society have not long been possessed of the grounds—which, by the way, were *given* by a gentleman of large property and liberal propensities — and will soon remedy any defects which may show themselves.

The vegetables here are much finer than any we see in Rochester, and of better quality, or rather varieties. Root crops, such as carrot, mangel wurzel, etc., seem to be easily grown. In the exhibition before alluded to, among the curiosities, or rather varieties, was a large leaf of the Giant Water Lily—the *Victoria Regia*—from the establishment of a gentleman in Toronto who has it growing. In conclusion, I would say that the principal cause of the success of the Toronto Horticultural Society lies in this: they have indefatigable and *working* officers—in which respect they are most fortunate.

W. T. GOLDSMITH.

Toronto, July 15, 1861.

THE PLEASURES OF GARDENING.

EPICURUS passed his life wholly in his garden; there he studied, there he exersised, there he taught his philosophy: and, indeed, no other sort of abode seems to contribute so much to both the tranquility of mind, and indolence of body, which he made his chief ends. The sweetness of air, the pleasantness of smell, the verdure of plants, the cleanness and lightness of food, the exercise of working or walking; but above all, the exemption from cares and solicitude, seem equally to favor and improve both contemplation and health, the enjoyment of sense and imagination, and thereby the quiet and ease both of the body and mind.

Though Epicurus be said to have been the first that had a garden in Athens, whose citizens before him had theirs in their villas or farms without the city; yet the use of gardens seems to have been the most ancient and most general of any sorts of possessions among mankind, and to have preceded those of corn or of cattle, as yielding the easier, the pleasanter, and more natural food. As it has been the inclination of kings and the choice of philosophers, so it has been the common favorite of public and private men; a pleasure of the greatest, and the care of the meanest; and, indeed, an employment and a possession, for which no man is too high or too low.

If we believe the Scripture, we must allow that God Almighty esteemed the life of a man in a garden the happiest he could give him, or else he would not have placed Adam in that of Eden; that it was the state of innocence and pleasure; and that the life of husbandry and cities came after the fall, with guilt and with labor.

SIR WILLIAM TEMPLE.

QUEEN VICTORIA PLANTS AN AMERICAN TREE.

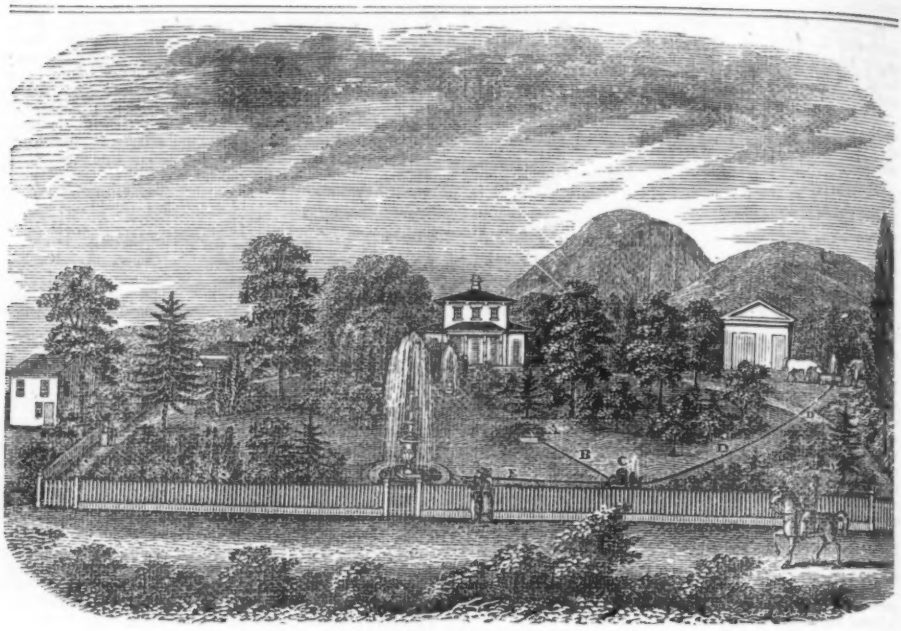
THE London *Gardener's Chronicle* of June 29th, says:

"ON Monday last the final and crowning ceremony of inaugurating the Garden of the Royal Horticultural Society took place at South Kensington, when the Queen planted a tree there as a companion to that planted by Prince ALBERT on the 5th inst. Precisely at 10 o'clock in the morning Her Majesty, accompanied by their Royal Highnesses the Prince Consort, the Princess HELENA and the Comte de Flanders, arrived at the Garden, where the Queen was received by the Earl of Ducie, the Lord Bishop of Winchester, and other members of the Council.

The spot chosen for the tree was exactly opposite that selected on the last occasion, but on the other or western side of the Garden. Upon reaching the ground, another beautiful Wellingtonia, the ["Big Tree" of California,] also provided by Messrs. VEITCH & SON, was found to be the subject of the interesting proceeding. A spade having been presented to the Queen, Her Majesty threw several good shovelfuls of earth upon the roots, after which the Queen, with a most gracious smile, delivered the spade to Mr. JAMES VEITCH, JR, Mr. DILKE having briefly returned thanks to Her Majesty in the name of the Council, the Queen passed into the Conservatory, where the Countess of Ducie had the honor to present her son Lord Moreton, a little gentlemen four years old, and we believe the youngest Fellow of the Society under the rank of Royalty.

The Queen being still in deep mourning, Her Majesty's visit was necessarily private, so that very few persons could be present on the occasion."

LARGE RHUBARB.—Mr. MOSES LONG of York, N. Y., informs us that he measured a stalk of his mammoth rhubarb a few days since. It was 20 inches long and 7¼ inches round and the leaf was *twenty-two feet* in circumference.

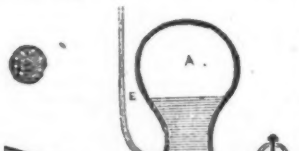


HYDRAULIC RAM IN OPERATION

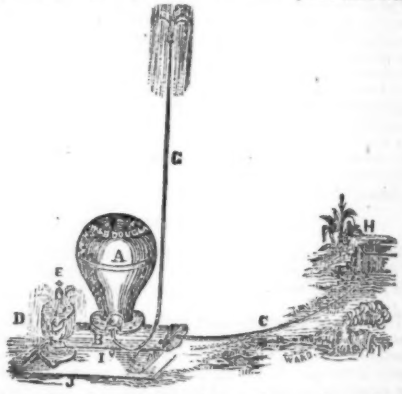
THE HYDRAULIC RAM.

It has always been a matter of surprise to us that farmers and horticulturists do not more generally avail themselves of the hydraulic ram for elevating water. Wherever there is a running stream or spring with a fall of a few feet a *portion* of the water may be elevated to any desired height, at any reasonable distance, at no expense except the original cost of the ram, pipes, &c. We say a few feet fall. The ram will work with only a fall of eighteen inches, but the greater the fall the higher can the water be raised and the greater the supply. There is no limit to the power of the hydraulic ram except the strength of the materials.

To assist in illustrating the subject, we introduce an engraving showing the Ram in operation. A is the spring, the water of which it is desirable to elevate to the barn, or house, or fountain. B, the pipe conveying water from the spring to the Hydraulic Ram and from the spring to the Ram there must of course be a fall. C is the ram. D, D, pipe conveying water to a trough for cattle, which might of course be carried in any other direction desired. E, pipe supplying water to a fountain.

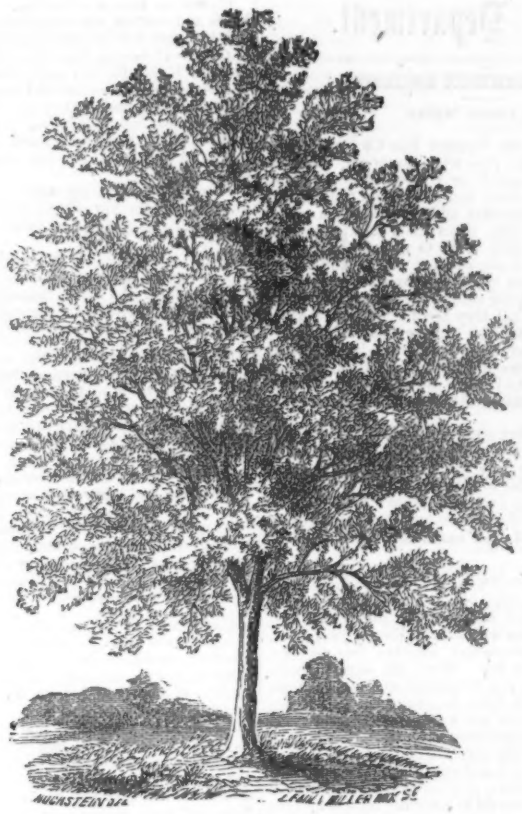


The mode in which it operates will be understood from the above engraving of a vertical section of the ram. A, the air chamber; B, the waste valve; C, valve opening into the air chamber; D, the feed or driving pipe; E, pipe to convey the water to where it is desired. The pipe D should be 30 to 50 feet long, and from 1 to 2 inches calibre; the pipe E, any length desired, and about half inch calibre. The circular figure on the left represents the form of the waste valve. The waste valve is made to vibrate up and down thus: The water passes down the driving pipe D, and escapes at the waste valve B. Now, as any descending body increases in velocity and force every



instant of its descent, the column of water descending in the driving pipe, quickly attains sufficient velocity and force to lift the waste valve; but the valve in rising, instantly stops the passage, and the whole momentum of the water strikes against it and seeks relief, which is only found at the valve C, through which a quantity of water is forced into the air chamber, where it is confined by the closing of the valve. The momentum being thus expended, and the water at rest, the valve B drops by its own gravity, and is ready to start again. After repeated vibrations the air chamber becomes partly filled with water, compressing within a small space the air, which by its elasticity, reacts upon the water, and forces it up the pipe E to any desired elevation or distance.

The above engraving gives a more distinct view of the ram in operation. H, spring or brook. C, drive or supply pipe from spring to ram. G, pipe conveying water to house, or other point required for use. A, B, D, E, I, the ram. J, the plank or other foundation to which the ram is secured.



THE SUGAR MAPLE.

THE SUGAR MAPLE.

Taking it all in all, there is no more desirable shade and ornamental tree than the Sugar Maple (*Acer saccharinum*). Its healthy and vigorous growth, the beauty of its form, the rich verdure of its foliage during the spring and summer, and its bright and varied tints in autumn, fully account for its popularity. Downing says: "The contrast of color exhibited on many of our fine river shores in a warm, dry autumn, is perhaps superior to anything of the kind in the world: the leading and most brilliant colors, viz., orange and scarlet, are produced by Maples. Even in Europe, they are highly valued for their autumnal appearance, so different from that of most of the trees of the old world. Very beautiful effects can be produced by planting the Scarlet and Sugar Maples in the neighborhood of the Ash, which assumes a fine brownish purple; of the Sycamore, which is yellow, and some of the Oaks, which remain green for a long time; if to these we add a few evergreens, as the White Pine and Hemlock, to produce depth, we shall have a kind of kaleidoscope ground, harmonious and beautiful as the rainbow.

"When the Maple is planted to grow singly on the lawn, or in small groups, it should never be trimmed up ten or twenty feet high, a very common practice in some places, as this destroys half its beauty; but if it be suffered to branch out quite low down, it will form a very elegant head. The Maple is well suited to scenes expressive of graceful beauty, as they unite a considerable variation of surface, a pleasing softness and roundness of outline. In bold or picturesque scenes, they can be employed to advantage by intermingling them with the more striking and majestic forms of the Oak, etc., where variety and contrast is desired.

"It is unnecessary for us to recommend this tree for avenues, or for bordering the streets of cities, as its general prevalence in such places sufficiently indicates its acknowledged claims for beauty, shade and shelter. It bears pruning remarkably well, and is easily transplanted, even when of large size, from its native woods or swamps. The finest trees, however, are produced from seed."

We annex an engraving of a fine specimen growing in this vicinity.

Destroy the Weeds.—We can not give better advice this month than that given by the gardener in Shakespeare's *King Richard the Second*, written nearly three hundred years ago:

> "Go thou, and like an executioner
> Cut off the heads of too fast growing sprays,
> That look too lofty in our commonwealth:
> All must be even in our government.
> You thus employed, I will go root away
> The noisome weeds, that without profit suck
> The soil's fertility from wholesome flowers."

Big Pears and Pumpkins.—If you want to have big pears or other fruit just work on the stalk that bears them the point of an adjoining shoot; then you shall see what you will see. So says a French amateur, enthusiastic in the fruit line. If you want big pumpkins and squashes just bore a little gimlet hole in their rind when the fruit is a few weeks old, and push in a long piece of cotton wick with the loose end in a pan of water. The cotton will suck up the water, the pumpkin will suck the cotton, and by the time your fruit is ripe you will have the hugest pumpkin that was ever seen—a pumpkin we suppose, such as was made into Cinderrolla's carriage.

Ladies' Department.

ORIGINAL DOMESTIC RECEIPTS.

From various Sources.

RECEPT FOR DRYING THE COMMON RED CURRANT.—The currants should be quite ripe when gathered, with the stems attached, and washed or rinsed effectually and drained off. Then stem them and wash them thoroughly, and to each pound of currants add a quarter of a pound of good Havana sugar; then place them in a preserving kettle over a fire until they come to a *scald heat*, when they are turned out into white earthen dishes, and exposed to the action of the sun until, by evaporation, they become hardened on the upper side. Then they are turned over and there remain till they become so on the other side, and so alternate until they become a sort of leathery texture, when they are put away in earthen jars or boxes until wanted for use. Care must be taken to keep them from the dews of night and rains during the process of drying. Finally, the utmost cleanliness should be observed from first to last.

When used, enough hot water is required to dissolve them, or render them to any consistency suitable to tarts, jellies, etc. At the same time, more sugar is required to make them quite palatable, which must of course be governed by taste. Currants in this way have kept with us well for three years, and the presumption is that they will keep for a longer time if well cared for.—Mrs. GEO. H. HITE, in *Horticulturist*.

RECEIPT FOR PRESERVING PEACHES.—Select of one kind, those you wish to bottle, take off the skins, and if not desired to be whole, half and take out the pits. The preserving kettle, with a little water according to judgment, and sugar enough to pleasantly sweeten the peaches, should be placed upon the fire. When the sugar is melted and you have as many peaches ready, as you can at one time conveniently do, put them in, stir them gently, till they boil, and are as soft as you want them, (I like them rather hard and firm,) commence to bottle, according to the directions given in the last *Farmer*. Resin with a little good firm tallow or a small quantity of beeswax mixed makes a good sealing-wax, or if more convenient resin alone will do. Be very careful to have the bottles or cans hot and seal to while hot, and also be careful that every air-hole is effectually stopped, as on this depends your success more than upon anything else. Keep them in the coldest place in the house. I think the cellar the best.

TO DRESS CUCUMBERS.—A lady correspondent of the Baltimore *American Farmer* says: "Take three good sized cucumbers, pare them, put them in cool water for an hour, take them out and cut them in the usual way; sprinkle salt upon them and let them be so until an hour before dinner; drain off the salt liquor, and put them into a vegetable dish. Take a pint of sour cream (*not too old*), a good tablespoonful of cider vinegar, a piece of butter the size of a hickory nut; put them on the fire and let them come to a boil; pour it over the cucumbers while hot, and set them by in a cool place until dinner."

TO CLEAN CLOTH GARMENTS.—Rub some soap upon the wristbands and collars and dip then in boiling hot water or new made suds and scrub them well with a brush. Then go over the dirty and greasy places in the same way. Get fresh suds and wet and brush the whole garment the right way of the cloth. Stretch the sleeves, pockets, pocket-holes, wristbands and collars into shape the same as if ironed and put to dry. They will look as well as new.

TO PRESERVE EGGS.—It is said that eggs have been successfully preserved by pouring boiling water on them, to stand about one minute, till the surface next the shell is cooked, then pouring off and packing, small end downward, in bran, and leaving till wanted, any time within eight or ten months.

AN EXCELLENT BED-BUG EXTINGUISHER.—Wash the bedsteads once in two weeks with the coldest water you can obtain. Provided that the walls are not affected this remedy will soon eradicate all traces of bed-bugs.

CHOICE OF FOWLS.—*Turkeys.*—If young, the legs will be black and smooth, the eyes lively, and the feet pliable. If old, the eyes will be sunk and the feet dry.

Geese.—If young, the bill will be yellow and the feet limber; if old, the bill and feet will be red and dry.

Hens.—If their combs and legs are rough, they are old; if smooth and limber they are young.

Wild and Tame Ducks.—If young, they will be limber-footed; if fat, hard and thick on the lower part of the body. A wild duck has red feet and smaller than tame ones,

Partridges—If young, will have a black bill and yellow legs; if old, the bill will be white and the legs blue. Old fowls, tame and wild, may be told by their hard, rough, or dry feet.

Hares and Rabbits.—If young, they will be white and stiff; the ears will tear like brown paper. If old, the flesh will be dark, the body limber, and the ears tough. A rabbit, if old, will be limber and flimsey; if young, white and stiff.

CURRANT JELLY.—Let the currants remain on their stems. If dirty wash them, but let them be dry before using. Put them in a stone jar and set the latter in a kettle of cold water, to boil for an hour. Strain them through a flannel bag if you have one it not a coarse cloth will do. Strain the juice again through another cloth. Put a lb. of loaf sugar to a pint of juice. Dissolve well the sugar and then put to boil for twenty minutes by the clock. Skim clear and pour into moulds, small ones are best. It requires twenty-four hours for the jelly to well form. During this time the cups should be placed in the sun with a piece of gauze or thin muslin over them. The next day cut some paper the proper size, dip each one in brandy and lay close to the jelly. Paste paper over them, label and keep in a cool place.

RASPBERRY VINEGAR.—Put two quarts of red raspberries, nice and fresh, into a stone jar, and pour on them a quart of good vinegar. Let it stand 24 hours. Then strain it through a flannel bag. Pour the liquid over two more quarts of berries and again let it stand for twenty-four hours.. Strain a second time. To every pint of juice add three-quarters of a lb. of loaf sugar (some prefer a half a lb. per pint) let it melt in the liquor, put the whole in a stone jar, cover it closely. Let it stand in a kettle of boiling water which must be kept boiling for an hour. Next strain it well. When cold you may bottle it ready for use. This beverage makes a cooling and pleasant drink for summer, and excellent in cases of fever.

ELDERBERRY WINE.—To three gallons of elderberries add six gallons of water. Let it stand two days; boil an hour and press through a coarse cloth. Add to the juice twenty lbs. of dark brown sugar, 1 oz. of cloves, 1 oz. of allspice, and ½ lb. of ginger. Boil all together, then put it in a tub, and when cold add some yeast spread on toasted bread. After two days put it all in a cask. Leave it for two months with the bung loose, add afterward one quart of brandy. Then cork up tight. If preferred stronger put more berries.

PLAIN CORN STARCH PUDDING.—Mix four tablespoonfuls of corn starch with a little milk. Put on the fire to boil, a pint of milk with a little white sugar. When boiling stir in a little of the prepared flour and milk, and stir till it boils, then more and so on till all is in, then boil for one or two minutes, stirring all the time to keep from burning. Pour it into a basin or mould, and when cold turn out upon a dish and eat with sweetened cream or milk.

TO DYE A FINE BLACK.—Put two or three quarts of water and a pound of logwood into an iron kettle and let them remain all day. Boil and strain, and put in your materials and let them remain another day, airing them considerably. Take out the materials and stir in an ounce of copperas. When dissolved dip them again till quite black and put to dry. Wash in good suds and milk, and rinse thoroughly.

SPANISH SALAD.—A small handful of parsley cut fine, a slice of bread toasted very dry, chop and pound them well together, add a little salt, pepper and vinegar. It is excellent with all kind of meats, especially chops and steaks.

Miscellaneous.

HINTS FOR THE PRESERVATION OF HEALTH.

D. Appleton & Co., have published a book with the above title, by John Ordonaux, M. D., especially designed for the army. It abounds, says the New York *World*, in salutary, common sense rules, expressed in the language of common life. Some of these, as might well be anticipated, have a very limited application—are for man in the army and no others. Most of them are of general utility, as applicable to men in the service of Ceres as those serving Mars. The former, as much as the latter, are in the open field; the sun shines upon them as intensely; physical exertion is even more constant with the farmer than with the soldier, and almost as violent at times, especially when the coming cloud threatens the crops already prepared for storage, or when every day and every hour is lessening the value of the crop which the owner would have garnered days ago if he could. It may be said to be foolish for men to work beyond their strength for mere dollars and cents; and perhaps it is; but let a man have a golden wheat field which has already stood a day or two too long, the weather threatening, the result of long toil and considerable outlays endangered, labor not to be hired for love or money, and see if he will be wise enough to abstain from effort severer than would be commendable in ordinary cases. He is more than a man, or less, if he does not condense two days' work into one day. Not to be anxious to secure crops already grown is impossible. Even the looker on will sympathize with the farmer whose crops are going to waste almost as intensely as if they were his own. Often have we hired men with not one cent's interest at stake, who, at such a juncture, could hardly be restrained from exertions beyond what seemed reasonable.

One of Dr. Ordonaux's (Ordono's) rules is: "After violent exercise avoid lying or sitting immediately, and in the shade, or with the wind at your back. Let your coat remain buttoned, or if previously open then button it.

Keep in motion for a little while, and out of the sun, gradually cooling off, and finishing by washing face, neck, hands and arms in cold water." This is as important to farmers and farm laborers as to soldiers.

On the next rule we confess it is "easier to preach than to practice." When heated in the field, it is hard to be satisfied with looking at cold water, with touching the lips to it, or rinsing the mouth with it. One longs to absorb it by the gallon. He is tempted, like old Apicius, to wish his neck were longer, that he might feel the stream gurgling down for a greater distance. But hear what the doctor says: "Drink not while *hot* and wearied, on the march, from any stream, however tempting. Rinse your mouth, wash hands and face, but wait until you are cool before drinking, and then drink but little."

A little vinegar and a moderate allowance of molasses, which makes a highly palatable drink, diminishes the danger. Another of the doctor's rules is "But a far better thing is to fill the canteen before starting with half *coffee* and *water*, *unsweetened*, which, when drunk cold on the march, is the best thirst-slaking and most refreshing beverage in the world. If coffee is not agreeable tea answers just as well. Both these beverages are tonic, stimulant, and satisfying. Tea is more astringent that coffee, and for those disposed to looseness of bowels, is, on that account preferable." We think he might have added that much depends upon the food, as to whether men will injure their health by too much drinking. If the farmer, exposed to the heat of the harvest, will eat fresh meats in part, and take some vegetable acid at his meals, as apple sauce, stewed cranberries, or salad, with a plenty of good cider vinegar, his temptation to yield to over doses of water will be diminished. Nothing is better than stewed cranberries. We wish every farmer in the land would have a plot of this health-giving fruit, and use it freely.

Another rule is: "At least twice a week, in summer, the soldier, besides his daily 'morning ablutions of face, neck, hanks and feet, should wash his entire person. Soap should be used in the process. In the winter once a week may suffice."

We wish that space allowed us to give more of these rules. As it does not, we will add, as briefly as possible: Never, whether you are a farmer or a soldier, or both, sleep by night in the clothes you have toiled in by day, but give them the best airing possible, that they may be fresh in the morning. An air bath is the next best purifier, after soap and water. The body throws off many impurities by the pores of the skin. To reabsorb these, for the want of a frequent change of linen, poisons the system. It is the same if perspiration is suddenly checked. Avoid sitting on the ground, or in a draft of wind when you are heated. It is safer to become cool gradually. Always wear more clothes in the evening than while at work through the day. Take time enough to sleep even in harvest. Sleep is "kind nature's sweet restorer." You will lose nothing by consuming seven or eight hours in profound sleep, and more if you can. No clock will run without winding up; and it is important that the human clock be wound up every night, rightly and fully, not part of the way up. Stale bread, a day or two old, is far healthier than hot bread or biscuit. Beside meat, vegetables are essential to health; make use of them fresh and well cooked, together with fruits and all the delicacies of a well regulated farm house, as side dishes, and not the staple. With regard to ardent spirits, the following, from Dr. Ordonaux's book, may possibly be gainsayed by appetite but never by fair argument. He says:

"Ardent spirits are not necessarp to health in the healthy. All authorities agree that their use is pernicious in warm latitude, and the soldier is everywhere found to be better without them. Their place, properly speaking, is among hospitable stores. There they should remain, and be dispensed only under the advice of medical officers."

TRAPPING A TIGER.

A very ingenious mode of tiger-killing is that which is employed by the natives of Oude. They gather a number of the broad leaves of the *praus* tree, which much resembles the sycamore, and having well besmeared them with a kind of bird's lime, they strew them in the animal's way, taking care to lay them with the prepared side uppermost. Let a tiger but put his paw on one of those innocent looking leaves, and his fate is settled. Finding the leaf stick to his paw, he shakes it in order to rid himself of the nuisance, and finding that plan unsuccessful, he endeavors to attain his object by rubbing it against his face, thereby smearing the ropy bird-lime over his nose and eyes, glueing the eyelids together. By this time he has probably trodden upon several more of the treacherous leaves, and is bewildered with the novel inconvenience; then he rolls on the ground, and rubs his head and face on the earth, in his efforts to get free. By so doing he only adds fresh bird-lime to his head, body and limbs, agglutinates his sleek fur together in unsightly tufts, and finishes by hoodwinking himself so thoroughly with leaves and bird-lime, that he lies floundering on the ground, tearing up the earth with his claws, uttering howls of rage and dismay, and exhausted by the impotent struggles in which he has been so long engaged. These cries are a signal to the authors of his misery, who run to the spot, armed with guns, bows and spears, and find no difficulty in dispatching their blind and wearied foe.—*Rutledge's Illustrated Natural History, by Rev. J. G. Wood.*

A Milkman was awoke by a wag in the night with the announcement that his best cow was choking. He forthwith jumped up to save the life of Brummie, when, lo! he found a turnip stuck in the mouth of the pump.

A man in Kentucky killed a cow a few days since, in whose stomach was found a large breast pin, a hair pin and a quantity of hooks and eyes. It is inferred that the old cow swallowed the milkmaid.

A young gentleman lately advertised for a wife through the papers, and got answers from eighteen husbands, stating that he could have theirs.

An Irish lover remarked that it is a great pleasure to be alone, especially when your "swateheart is wid ye."

"Old dog Tray's ever faithful"—they say:
But the dog who is faithful can never be Tray.

The Harvest.—A few fields of wheat have been cut in this section, but the general harvest has not yet (July 26) commenced. The crop on the whole will be better than we anticipated this spring. The plant suffered greatly during the winter, whole fields in some instances being nearly destroyed, while there were few pieces that were not more or less "spotted." The prospect this spring was a gloomy one, but the summer on the whole has been favorable for the wheat crop, and that terrible pest the midge has done comparatively little damage. A much larger breadth of land was sown to wheat last fall than for several years past, and this will fully make up for the loss from winter-killing. There can be little doubt that the crop in Western New York will be quite as large as last year. The quality is excellent, and the berries unusually large. For some years past the midge has been so destructive that very little white wheat was sown, farmers contenting themselves with the red Mediterranean, which, from its earliness, escaped the midge. Last year the midge did but little damage to the white wheat, and farmers were encouraged to sow much more white wheat last fall. We are happy to learn that it has again very generally escaped. If this proves to be the case, the *Soules* and other varieties of white wheat will be extensively sown this fall.

Winter barley, like winter wheat, suffered terribly and the crop will be light, but spring barley never was better. Oats are fair, but not equal to the immense crop of last year. Peas never better, and a large breadth sown. Corn is late, and the cold nights keep it back. Of fruit there is little except apples and not an average crop of these.

Our correspondents in different sections have favored us with reports on the crops, from which we judge that while the harvest on the whole will probably not be as large as that of last year, yet it will be quite up to the average.

There are some sections from which we have unfavorable reports. Thus a correspondent at Sublette, Lee county, Ill., says: "The wheat crop is not as good as last year. A great deal of it will not be cut. Corn and oats look well." A correspondent in Ohio thinks the wheat will not be more than half a crop. The winter, the fly, and the weevil [midge] have used up the other half. In Wisconsin the crops are tolerably good, but it is thought that spring wheat, which was such a splendid crop last season, will fall short this year. In Canada West there is much complaint of injury to winter wheat from the midge, but we hope and believe the loss will not be so great as is anticipated.

In regard to prices, it is not safe to predict. Much depends on the weather in England. At the last report, July 19th, it was favorable, but still the market for breadstuffs was steady. There can be no doubt that a large amount of foreign wheat will be needed in England, and though there is a considerable quantity of old wheat and flour on hand in this country, and the new crop is coming in, yet we think it will all be needed. Prices can hardly go lower than they are at present, and may advance somewhat.

No Scarcity of Laborers.—It was feared that the drain of men for the army would render it difficult to procure the help necessary to harvest the crops. This may be so in some localities, but as a rule it is not the case. The stagnation of business has thrown many able-bodied men out of employment, who would gladly work in the harvest fields at reasonable rates. The only complaint we have heard was that it was more difficult than usual to procure efficient and steady hands. Everybody is excited and too many people are more inclined to talk than to work. The *Prairie Farmer* of July 25th, published at Chicago, says "almost every day our office is visited by men anxious to get employment in the hay and harvest fields." They are able-bodied men, thrown out of employment in the city—men able and willing to work, and at fair wages.

Wheat in Pennsylvania.—John J. Carter of Upper Oxford, Chester Co., Penn., writes us in regard to the introduction of wheat from this section into his neighborhood. He says: "In our vicinity we have been sowing almost exclusively the Mediterranean wheat for several years. The last three or four years we got a variety called the red Mediterranean, which was redder in the chaff, short bearded, did not yield very well, but withstood the ravages of the fly better than any other kind we could procure—which was its chief characteristic and advantage. *This it has now almost lost.* Why I do not know.

About eight years ago we could raise on our creek hills (Octoraro) very successfully, a smooth white wheat, yielding from 30 to 35 bushels per acre, but the red weevil [midge] was so very destructive that its cultivation was entirely discontinued and there is not any similar seed in the country. The weevil has disappeared and I think we could now profitably raise a white wheat again."

The question is, which is the best variety of white wheat for them to sow? We know of no better variety than the *Soules*, but should be glad to hear from others on the point.

Diarrhœa.—A correspondent of the *New York Observer* gives the following simple remedy for this troublesome complaint: Take the white of forty or more eggs, and after whipping them well, sweeten with white sugar. Let the patient drink large quantities of this repeatedly, and abstain from all other food.

Kerry Cattle.—In the *Genesee Farmer* for May we gave an account of this small Irish breed of cattle. They are beginning to attract the attention which they deserve. Baron Rothschild has recently purchased fifty Kerry heifers as a foundation for a herd of this breed which he purposes to establish.

Buttermilk for the Striped Bug.—E. W. Putnam of Harmonsburg, Pa., writes us that as soon as the bugs attack his cucumber vines he saturates the hills with some buttermilk and the bugs soon disappear.

The Markets.

OFFICE OF THE GENESEE FARMER,
ROCHESTER, N. Y., July 27, 1861.

Since our last month's report the price of grain of all kinds has fallen considerably. Wheat is now 10 cents per bushel lower than at any time during the last twelve months—or during the first and second weeks of last December, when it was lower than at any other time during the year. This time last year, white wheat in New York brought from $1.40@$1.60, and red from $1.28@$1.43½; now white wheat may be quoted at $1.15@$1.30, and red 70c;@$1.10. A year ago, mixed Western corn brought 63@68c., now it is quoted at 38@45½c. It will thus be seen that white wheat is from 25@80c. lower than it was a year ago, and red 32@53c. lower. Corn is 22@25c. lower than a year ago, while oats, notwithstanding the immense crop of last season, are only 8c. lower.

According to the last *Mark Lane Express*, American wheat in London was worth, red, $1.59@$1.68; white, $1.71@$1.80. A year ago it was worth, red, $1.50@$1.77; white, $1.59@$1.74. That is to say, taking the lowest quotations, red wheat is worth 9c. per bushel *more* in London now than it was at this time last year; and taking the highest quotations, but 9c. per bushel less. White wheat is now worth from 6@12c. per bushel more than a year ago.

It thus appears that while wheat in New York is from 25@53c. per bushel *lower* than it was a year ago, in London inferior samples are only 9c. lower, and those of better quality are 6, 9 and 12c. *higher*. These facts show conclusively that if wheat could be shipped to London a year ago without loss, it can now be sent there at a considerable profit. Are we not warranted in concluding that the present low price of wheat is owing more to the want of *confidence* among bankers and capitalists than to an excess of supply over demand?

We would direct the attention of our readers to an article in this number of the *Farmer*, page 242, on the "Wheat Crop in England," from the *Mark Lane Express*. We need hardly say that this journal is regarded as the very highest authority on the state of the crops, prices, etc. From this article it will be seen that the prospects of an average yield in England are very slight, while there is a much less breadth of land sown than usual.

The *Journal d'Agriculture Pratique* says that on the evening of June 22d a severe storm of hail and wind did very great damage to the crops in several departments in France, so much so that a subscription had been started for the benefit of the sufferers, headed by $8,000 from the Emperor. The weather for some time had been very hot and dry, and serious fears were entertained for the crops. This and other storms had cooled the air and prevented premature ripeness. The crop is from two to three weeks earlier than last year, but it is thought that it will fall below an average. Several cargoes of wheat have been shipped from New York directly to France. The old sliding scale duties have been removed, and wheat is now admitted into France in foreign vessels at a duty of about 5 cents per bushel, and in French vessels at half that amount.

The importation of specie from Europe still continues on a large scale. The total specie imported into this country exclusive of California, for the fiscal year ending July 1st, was $42,261,200. To this must be added $10,000,000 of gold from California, over and above the amount of specie exported, making the total increase of specie over *fifty-two millions of dollars* as the result of the abundance of last year's harvest and the deficiency of the crops in Europe.

The total exports from New York, exclusive of specie, for the fiscal year ending July 1, was $126,525,700, against $79,938,900 for the previous year, and $59,604,100 for the year before. On the other hand, the importations of foreign goods to New York are over forty-one millions of dollars *less* than for the year previous. These facts speak for themselves. There never was a time when the country was so strong financially as now.

NEW YORK, July 25.—Sales of white Kentucky wheat at $1.35@$1.50; Chicago spring, 74@93c.; Milwaukee do., 80c@$1; amber Wisconsin and Iowa, $1.01@$1.02; red Western, $1.14@$1.15½; white Ohio and Indiana, $1.20@$1.25; red Delaware, new, $1.10. Rye, western, 48@49c.; State, 61c. Oats firm—Canadian 26@28c.; western and State, 33@34c. Corn firm and in demand for trade and export—42@50c. Hay, $10@$14 per ton. Wool inactive and prices entirely nominal.

NEW YORK CATTLE MARKET.—During the past four weeks, the number of cattle, etc., brought to the different markets in New York was as follows,

Beeves.	Cows.	Veals.	Sheep and Lambs.	Swine.
16,938	417	8,077	40,667	22,810

This would give an average per week for the month of

Beeves.	Cows.	Veals.	Sheep and Lambs.	Swine.
4,284	104	769	10,167	5,702

The average per week for last year was,

Beeves.	Cows.	Veals.	Sheep and Lambs.	Swine.
4,364	356	842	9,709	7,696

The last week in June the number of Beeves in market was 4,845, or nearly 500 head above the average. It proved a hard market for drovers. Prices receded nearly one cent per lb. The next week, the number of beeves was 4,099, or 746 less than the week before. Nevertheless, prices were not quite as good, especially on cattle of inferior quality, which were numerous. The next week was also a hard one for the drovers. There were 4,250 head in market, the weather was very hot, and bullocks would not bring as much per head by from $3 to $5 as the same weight and quality the week previous. It was the worst market of the year up to that time. The next week there was only 3,744 beeves in market—a more active demand, without however, any improvement in prices. The top price was 8 cents per lb. net weight, though a few extra good bullocks sold a little higher. The low grades did not sell for more than 6¾a7 cents per lb. net. With these prices drovers cannot afford to pay more than 8a8¾ per lb. live weight in the West, and the only way for farmers to obtain better prices is to keep them at home till there is a better demand. At present the market is overstocked. With corn so low, it surely will pay to feed it out on the farm. The majority of "fat cattle" sent to market are only in good store condition and corn might be fed to them on the pastures with considerable advantage.

The *Tribune* says the expenses of bringing cattle from Kentucky to New York, including $2,50 for selling and 25c for yarding, is $16 per head. From Ohio, $2 or $3 per head less. Sheep from Ohio $1 per head.

Milch cows can hardly be sold at any price for cash. The milkmen require 30 and 60 days credit, and not one private family in twenty now keeps a cow that did a few years since. The nominal price of a cow and young calf varies from $20 to $50.

Sheep market dull. Prices not over 3c per lb. live weight, or say $3 per head for sheep that will weigh from 90 to 95 lbs. Pelts of old sheep are worth 20c; of lambs, 40c, and the coarser the wool the more saleable. Light, thin, fine wool sheep will not much more than pay the cost of transportation. There are too many offered. Keep them at home at present.

Heavy corn-fed hogs 3¾a4c per lb. live weight, say 5a5¼ dead weight. Small size, fat and prime for market butchers 4a4½c per lb. live weight, say 5¼a5¾ dead weight.

ROCHESTER, July 27.—Wheat—White Canadian, $1.28@$1.30; Corn, 38@40c. Oats, 25@28c. Barley, 50c. Rye, 50c. Beans, $1@$1.25. Eggs, 10@11c. per dozen. Potatoes, old, 25@28c.; new 50@75c. Hay, old, $8@$11; new, $6@$10 per ton. Wool—scarcely anything doing—28c. is the top price.

TORONTO, July 25.—Fall wheat of good quality, $1.05@$1.10; inferior to medium, 95c@$1; spring wheat, 75@83c, Barley, 35@37c. Oats in demand at 29@30c. Peas 40@45c. Wool, 22@23c.

PHILADELPHIA, July 23.—About 6,000 bushels of Southern red, mostly new, was sold to-day at $1.12@$1.14; white, $1.15@$1.20. Rye, 57@58c. Corn 50@53c. Oats, 29@30c.

BUFFALO, July 26.—Sales of white Canada wheat at $1.08; amber Iowa, 87c.; Kenosha club, 85c.; No. 2, Chicago spring, 75c. Corn 32@33. Oats 24@25c.

CHICAGO, July 25.—No. 1 Spring, 65@70. No. 2, 48@65c. Corn 23@27; rejected, 18@19c. Oats, 13@15c. Beans, $1@$1.25

CINCINNATI, July 23.—White wheat 85c@$1; old red, 80c.; new, 75c. Corn, 27c. Oats firm 24c.

Our late English exchanges speak highly of the result of a trial of steam plows which was in progress at Leeds. The particulars have not yet reached us, but the London *Agricultural Gazette* of July 6th, says "no one of the spectators could fail to admit that at length cultivation by steam power is an established fact in agriculture." There were nine different machines entered for competition. Fowler's, Howard's and Romaine's seem to have given the best satisfaction. The latter is a rotary cultivator, constructed on the principle advocated by Mr. Hoskyns in that most interesting work, "Talpa, or the Chronicles of a Clay Farm." On land free from grass, this machine did the best work.

Visit to an Experimental Farm.

In my late visit to Rochester, N. Y., among the many rural objects that attracted my special notice, none interested me more than the experiments of Mr. Joseph Harris, editor of the *Genesee Farmer*, which he has in progress on a farm, about six miles west of Rochester. The farm is of a heavy clay soil, and needs to be thoroughly underdrained with tile, which improvement, I am glad to say, is in progress.

Mr. Harris has undertaken to test, scientifically, the efficacy of some of the different fertilizers in the growing of common farm crops. His plan of operation is somewhat after the following manner: He divided the ground upon which he is experimenting into plots of a given number of feet in breadth; the first is without any manure; the second, for example, with a dressing of plaster; the third, superphosphate; the fourth, sulphate of ammonia; and others, of a mixture of these fertilizers, specifying all cases, the number of pounds, also at harvest time, weighing the produce per plot and comparing the results.

Mr. Harris is experimenting in this way upon wheat, oats, maize, grass, beans and potatoes. It was highly gratifying to be favored with the opportunity of spending several hours in examining the present condition of the growing plants under the influence of these several artificial manures. In some instances the effect thus early is very marked; in others less so; and others, still, no effect is yet visible. This was particularly the case on a Timothy meadow where these fertilizers had been used as a top-dressing. One plot I judged had ten times as much grass, by weight, where it had been top-dressed, as on the plot where no manure had been used. But as Mr. Harris will publish the results hereafter, I will not dwell on this point.

It is several years since Mr. Harris began to experiment in this way; and it is his purpose to continue experimenting until he settles the question, scientifically, in regard to the economy of using artificial manures; and in so doing, he will in a measure, determine how such manures should be employed, in what quantites, and for what crops, etc. In this way Mr. Harris will make himself the true benefactor of his race. Knowledge gives power. That knowledge which comes from experiments, carefully conducted and recorded by a competent, scientific experimenter, seems to advance the noble employment of tilling the soil, by rendering it more productive, and thus giving farming a higher rank among the industrial pursuits of men.

Rarely, if ever, have I passed half a day more pleasantly or profitably than the one occupied with Mr. Harris in examining and noting his experimental doings, united with his brief, pertinent and practical field lectures; for it is no hyberbole to call the conversational themes of a scientific gentleman lectures; and lectures, too, they are of the most beneficial kind, because given in the right place and at the right time.

The farm readers of this communication may be, some of them, disposed to make their experiments more definite hereafter. You will have observed that Mr. Harris weighs all his fertilizers, and the produce therefrom and measures the ground. One great defect in almost all reports of experiments is their indefiniteness. See the statements published by the County Societies of this State and as reproduced in the "Agriculture of Maesachusetts." Knowledge, what a man knows, is definite; all beyond this, that appertains to experiments is guess work or speculation.—Prof. Wetherell in *Boston Cultivator*.

Register—Of the leafing and blossoming of some of the principal shrubs and trees, made at Belfast, Maine, latitude 44.23° N., longitude 69.8° W., during the year 1861.

Names of Plants.	In Leaf.	In Blossom.
Apple tree,	June 2d.	June 11th.
Apple, crab,	May 29th.	June 5th.
Blackberry, common,	May 24th.	June 27th.
Balm of Gilead,	May 18th.	May 13th.
Cherry, tame,	June 6th.	June 2d.
Cherry, wild,	May 23d.	June 5th.
Currant, red,	May 13th.	May 29th.
Currant, black,	May 15th.	June 4th.
Chokecherry,	May 15th.	June 10th.
Chestnut, Horse,	May 21st.	June 12th.
Elder, pink blossom, com'n,	May 15th.	May 31st.
Gooseberry, common,	May 9th.	May 28th.
Gooseberry, English,	May 9th.	May 26th.
Lilac,	May 23d.	June 10th.
Ox eye daisy,	Early.	June 22d.
Pear, wild,	May 22d.	May 31st.
Plum, common,	June 5th.	June 10th.
Pæony,	May 19th.	June 19th.
Rose, common,	May 24th.	June 17th.
Raspberry,	May 10th.	June 14th.
Strawberry,	Earliest.	May 7th.
Spirea,	May 10th.	July 17th.
Snowdrop,	May 23d.	July 10th.
Snowball,	May 26th.	June 20th.
Willow,	May 16th.	May 15th.

Remark.—Recorded *in leaf* when the first pair of leaves have fully expanded; *in blossom*, when in full flower.

Record—Of the first arrival of some of our principal migratory birds, made at Belfast, Me., 1861:

Robin Redbreast, arrived March 30th.
Ground Sparrow, " March 27th.
Wild Geese, passed overhead, March 26th.
Brown Blackbird, arrived April 5th.
Bluebird, " April 19th.
Barn Swallow, " April 27th.
Eave Swallow, " April 27th.
Plover, " April 27th.
Yellow Hammer, " April 28th.
Bobolink, " May 10th.
Chimney bird, " May 13th.
King bird, " May 15th.
Humming bird, " May 21st.

Notes.—The robin is one of our most common feathered friends, and indeed in many cases he may be said to be more than half domesticated, for when not disturbed they will make their habitation in the trees shading the dwellings, in the outbuildings, and even the portico over the door where there is passing in and out all of the time. They are the least inimical and the most beneficial to the farmer of any of the feathered race, ridding his gardens and fields yearly of thousands of injurious insects. The sparrow is our first feathered visitor, heralding the approach of spring, while the snow yet covers the ground and the flowers are far in the future. The wild goose does not remain here, but passes overhead to their breeding grounds in the North and Northeast, in the English dominions. The brown black bird is not seen here, but a short time after their arrival. The blue bird remains here during the summer. The barn swallow remains here in great numbers and after breeding seek a warmer climate; their food consists entirely of insects, and they destroy many thousand of the smaller gnats, moths, flies, &c. The plover is rather scarce; it breeds far upon elevated smooth lands and grass fields. The bobolink in common breeds here, and returns in early autumn to the Southern rice fields, where it is said to be very destructive. The king bird is common in our orchard; breeds here, and with swallow, is very useful in keeping hawks, &c., away from the farmyard.

George E. Brackett.

Belfast, Maine.

Dr. Dusenbury of Yates, in this county, has left a stalk of timothy in this office which is six feet high. He has half an acre which receives the wash of the barn yard, and the whole half an acre is from five to six feet high.

Notes from Canada West.

EDS. GENESEE FARMER:—As we anticipated, the latter half of June was dry and the heavy soils of Canada West were baked harder than we thought it possible for three weeks' sun to bake them. In this locality, the last rain that fell in June was on the 18th, and the first in July was on the 8th, since which we have had occasional showers and very pleasant weather. The rain, however, has been very partial: for twenty or thirty miles from here none has fallen since the middle of June, and crops are suffering severely. I never recollect seeing crops suffer so much in so short a drought; one week more would have rendered spring grain almost useless. Wheat was yellow up to the second joint; peas blossomed and fell, but no pods formed in many instances; turnips sowed about the 20th June have only come up since the showers last week. The crops present a very different appearance now, but of course they can not be heavy. The hay crop will scarcely be an average. What little winter wheat the frost left in this neighborhood, the midge has taken possession of, to an extent never before seen. The heads are actually red with them, and there does not seem to be room for the fly to deposit their eggs, nor sufficient nourishment in a head to mature the larvæ therein. The spring wheat will be too late to give them sustenance; we hope, therefore, that they will to a large extent, be starved out. The only hope we can have of being rid of this nuisance, is by passing a prohibitory enactment forbidding all persons — under penalty of the destruction of their crops, from sowing fall or early spring wheat, for a few years, until the evil is removed.

It is a great consolation to know that, even with the prospect of a light harvest, we are in very favorable circumstances. There is no danger of suffering. A large surplus of last year's crops are still on hand, and the present prospect for roots is good. Potatoes and beef will not be high at any rate. We hope Western New York can suply us with apples, and then we shall be all right for another winter. R. W. S.

Woodstock, C. W., July 16th, 1861.

Special Notices.

SALE OF IMPORTED STOCK IN CANADA.—MR. SIMON BEATTIE, of Woburn, C. W., will sell at public auction, August 1st, several head of Short-horn and Ayrshire cattle, and Leicester, Lincoln and Cotswold sheep. The sale will commence at 1 o'clock, P. M., on the farm of GEO. SCOTT, of Scarboro, ten miles from Toronto, and three miles from the Scarboro Station on the Grand Trunk Railway. All the stock was imported from England and Scotland this spring, having been selected by Mr. B. himself, regardless of trouble and expense, from the principal breeders, combining the most fashionable blood of the day. Should he meet with a liberal patronage, it is Mr. B.'s intention to continue annually to import either on his own account, or on commission.

ADVERTISEMENTS.

A FEW short advertisements of interest to farmers — and only such—will be inserted in the *Genesee Farmer* for twenty-five cents a line, or $2.50 per square, each insertion, payable in advance. To secure insertion, they should be sent in by the 15th of the previous month.

PRINCE & CO., FLUSHING, N. Y.—*New Catalogue of Strawberries and Bulbs*, just published, with all New Varieties and at greatly REDUCED PRICES, will be sent to applications with stamps. The new Grape Catalogue will be speedily issued.

200,000 PEACH TREES—One year's growth from the bud, for Fall and Spring sales. Peach, Apricot, and Nectarine trees in pots for Orchard Houses. Send for Catalogues. Address ISAAC PULLEN.
Aug.—3t Hightstown, New Jersey.

Frost & Co.'s Wholesale Catalogue,

WITH prices, for the Fall of 1861, is now ready for distribution. Their Nurseries comprise upward of THREE HUNDRED ACRES, and contain an immense stock of well grown *TREES, PLANTS*, &c., for sale the coming Autumn. Parties wishing to purchase in large quantities will be supplied at the *lowest rates and on favorable terms*. Descriptive Catalogues Nos. 1, 2, 3 and 5, are also supplied on receipt of a postage stamp for each. FROST & CO.,
Aug.—3t Genesee Valley Nurseries, Rochester, N.Y.

GENEVA NURSERIES,
GENEVA, N. Y.

THE Proprietors of these old established Nurseries take pleasure in offering for sale the coming Fall a large and fine stock of

Fruit and Ornamental Trees, Shrubs, Roses and Green-House Plants.

We invite particular attention to our stock of Standard and Dwarf Pears and Standard Apples, having a very large stock, all grown on gravelly loam of upland. Orchardists should bear this in mind.

Grape-Vine Department.—Having increased our facilities for propagating, we have erected three very large glass houses, enabling us to grow vines at a much reduced price by the dozen or thousand, mostly of the new and popular sorts—such as *Delaware, Rebecca, Concord, Diana, Hartford Prolific*—all hardy, for out-door culture. Also, Foreign sorts for culture under glass.

We invite all to call and examine our stock before purchasing elsewhere. Trees will be packed in damp moss for transportation. Address W. T. & E. SMITH,
Aug.—2t Geneva, N. Y.

The Austin Strawberry.

THIS remarkable variety, after three years trial, has proved to be the most wonderful strawberry in cultivation. It has been produced this year, 16 of which weighed one pound. It is as productive as the Wilson, much larger and finer flavored. The berry is a beautiful scarlet, and commands the highest market price. It continues long in bearing, and maintains its large size throughout. It was sent to New York from Watervleit up to the 20th of July, long after all other varieties had disappeared. It is without doubt, the most valuable market berry in cultivation. It is much more prolific than the Triomphe de Gand, larger in size, and altogether more attractive.

The plants of the Austin are now offered at greatly reduced prices, viz., $1 per dozen, $5 per hundred, $30 per thousand.

Orders addressed to either CHAUNCY MILLER, Shaker Trustee, Albany N. Y., or WM. S. CARPENTER, 468 Pearl St., New York. Aug.—2t

To Nurserymen—Situation Wanted.

A PRACTICAL Gardener and Nurseryman wan s a situation as Foreman or Partner in a NURSERY BUSINESS. He understands the raising and management of Fruit and Ornamental Trees, the culture of all sorts of Green-house Plants; also, the culture of the Grape Vine under glass and in open air, the laying out of Gardens and Landscape Gardening in modern style, the raising of Flowers, Vegetables, etc.

Having served in the largest establishments in Germany, France and the United States, he is able to give the best reference about his practice, experience and honesty, answering all reasonable expectations in his line.

Apply to the office of this paper, or address A. B., Versailles, Woodford Co., Ky., Box 131. Aug.—3t.

Burnett's Kalliston,

AS a Wash for the complexion has no equal. It is distinguished for its cooling and soothing properties, and is admirably adapted to all unnatural conditions of the skin; removing Tan, Sunburn, Freckles, Redness and Roughness of the Skin, &c., curing Chapped Hands, and allaying the Irritation caused by the Bites of Mosquitoes, and other annoying insects. Prepared by JOSEPH BURNETT & CO., Boston. Price, 50c. per bottle. For sale everywhere.

SMALL FRUITS.

FROST & CO., Proprietors of the GENESEE VALLEY NURSERIES, Rochester, N. Y., offer for sale the coming Fall an *immense quantity of SMALL FRUITS* of all kinds; also, of the newer sorts of *NATIVE GRAPES*, grown out of doors and under glass, their stock and variety are not equalled in this country. Plants furnished in large or small quantities at the most favorable rates. Descriptive Retail Catalogues, Nos. 1, 2, 3 and 5, and a Wholesale List, No. 4, with prices, are supplied on applications containing a postage stamp for each. Aug.—3t

ELECTRIC WEATHER INDICATOR.

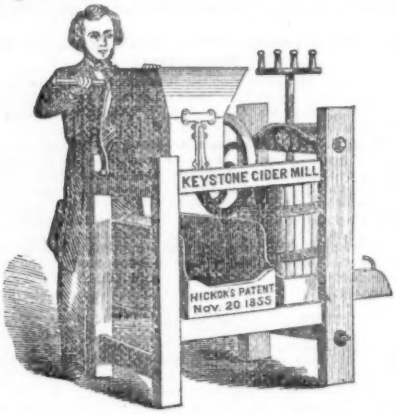
THIS neat and curious instrument foretells the weather from 12 to 24 hours in advance. Sent free by mail for 50 cents, by the manufacturers, LEE & CO., Newark, New Jersey.
☞ Liberal discount to Agents.

IMPROVED SOUTH-DOWN SHEEP.—I shall offer about 40 head of yearling rams, breeding ewes, ram and ewe lambs at my Eleventh Annual sale on Wednesday, October 2, 1861. For circular and particulars address J. C. TAYLOR, Holmdel, N. J 2

TRACY FEMALE INSTITUTE, 83 Alexander Street Rochester, N. Y. The Sixteenth year will commence on Wednesday, Aug. 28th, 1861. For circulars containing particular information address LUCILIA TRACY, Principal.

HICKOK'S PATENT PORTABLE

Keystone Cider & Wine Mill.



THIS admirable Machine is now ready for the fruit harvest of 1864. It is, it possible, made better than ever before, and well worthy the attention of all farmers wanting such machines.

It has no superior in the market, and is the only mill that will properly grind Grapes. Price $40. For sale by all respectable dealers.

Address the manufacturer. W. O. HICKOK,
Aug.—3t Eagle Works, Harrisburgh, Pa.

THE BRITISH REVIEWS,
AND
BLACKWOOD'S MAGAZINE.

1.
THE LONDON QUARTERLY (Conservative).
2.
THE EDINBURGH REVIEW (Whig).
3.
THE NORTH BRITISH REVIEW (Free Church).
4.
THE WESTMINSTER REVIEW (Liberal).
5.
BLACKWOOD'S EDINBURGH MAGAZINE (Tory.)

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	Per Annum.
For any one of the four Reviews,	$3.00
For any two of the four Reviews,	5.00
For any three of the four Reviews,	7.00
For all four of the Reviews,	8.00
For Blackwood's Magazine,	3.00
For Blackwood and one Review.	5.00
For Blackwood and two Reviews,	7.00
For Blackwood and three Reviews,	9.00
For Blackwood and the four Reviews,	10.00

N. B.—The price in Great Britain of the five Periodicals above named is $31 per annum. Republished by
LEONARD SCOTT & CO., 54 Gold St., New York.

FRECKLES.

OF all the effects that exposure of the skin to the air or sun produces, the most disagreeable is called freckles, or tan. If spread over the entire surface of the parts exposed, it is called tan; if scattered at intervals, freckles. The finest skins are most subject to them. The *Kalliston*, prepared by JOSEPH BURNETT & Co. Boston, contains a peculiar erasive property which will remove these disagreeable stains. It is at the same time perfectly harmless, allays all tendency to inflammation, and renders the complexion clear and beautiful—*Boston Herald*

EMPLOYMENT —ACTIVE, INTELLIGENT

YOUNG MEN, who have been thrown out of situations by the war, can hear of EMPLOYMENT which, by proper efforts, can be made profitable; by addressing FOWLER AND WELLS, 308 Broadway, New York. Aug.—3t.

CIDER PRESS SCREWS, 5 feet long, 4 inches in diameter. These powerful Screws bring out a third more juice than Portable Presses. Send for Circular. Made by L. M. ARNOLD, Poughkeepsie (N. Y.) Foundry. Aug.—3t.

BURNETT'S KALLISTON.

For removing Tan, Sunburn, Freckles, Redness and Eruptions of the Skin, and for rendering the Complexion clear and beautiful.

THE followieg testimonial furnishes conclusive evidence of the efficacy of this famous cosmetic.

MARLBORO', July 11, 1864.

Messrs. Joseph Burnett & Co.

GENTS:—The packages of *Kalliston* came to hand last evening and I am glad to have an opportunity to state to you how much we value it. My family have used it almost daily for more than two years, and now they think they can not do without it.

A single application has repeatedly removed the freckles from the face of my little boy, leaving his skin smooth and fair. And in all cases of sunburn or irritation of the skin from whatever cause, it has thus far proved itself a perfect and very pleasant remedy.

I can, if you desire, refer you to several cases of obstinate cutaneous disease in which I know the *Kalliston* has had a wonderfully good effect; one in particular, the daughter of Mr. P——, one of my neighbors, had suffered for many years from eruptions and painful inflammation of the skin (probably the effect of bad vaccine virus), leaving it in several places pustered and quite red. A few weeks ago I recommended to him your *Kalliston*; he has since informed me that the effect of its use has been very marked and beneficial, that the skin has become soft and smooth, and the inflammation and redness has nearly disappeared. This is an important case, and I will tell you more about it when I see you.

I owe it to you to state that I did not believe in the efficacy of any cosmetic until I tried your *Kalliston*, and I cheerfully give my testimony in its favor. Yours respectfully,

JOHN M. BOYD.

Prepared only by JOSEPH BURNETT & CO., Boston, Mass.
Sold by dealers generally, at 50c. a bottle.

FOWLER & WELLS' JOURNALS,

Enlarged and Improved. Price not Increased.

POSTMASTERS, Clergymen, Teachers, and others are requested to act as Agents, and get Clubs for our Journals:

THE ILLUSTRATED AMERICAN

Phrenological Journal and Life Illustrated.

WATER-CURE JOURNAL,

A GUIDE TO HEALTH.

These Journals commence new volumes with July, and have been enlarged, giving now in each

24 Pages Monthly, instead of 16.

TERMS, IN ADVANCE:

Single copy, monthly, one year,..... $1.00
Ten copies, to separate addresses if desired,..... 8.00

Any person sending Five Dollars for ten copies, will be entitled to *an extra copy gratis*. Add six cents a year for each subscriber in the British Provinces to pay postage. Specimens sent free. FOWLER AND WELLS, 308 Broadway, New York.

Agents wanted everywhere to sell our publications. Send for our Wholesale List and Confidential Circular. Aug.—3t.

WM. PATERSON'S

Improved Superphosphate of Lime.

MANUFACTURED and for sale at Division Street Wharf, Newark, N. J., and by the Manufacturer's Agents in this and other States.

It is put up in bags of 100 and 150 lbs. each, and marked with the Maker's name, to whom orders sent with cash, or satisfactory references here or in New York, will be promptly executed.

The aforesaid article consists principally of Charred Bones, dissolved by Sulphuric Acid with a large proportion of Peruvian Guano and other important ingredients.

The largely increased sales for the last seven years, with the unsolicited reports of Agents, and premiums awarded by State and other Agricultural exhibitions in past years, attest satisfactorily its remunerative results, being found more permanent in its effects than Peruvian Guano, and consequently more profitable.

It has been the aim of the manufacturer to make this manure what it is avowed to be, and the public may rest assured that it will continue to be uniform in quality and profitable to the buyer.

Circulars, with particular instructions for use, will be sent by mail when requested or on application to his agents.

March—7t. WM. PATERSON,

Premature Loss of the Hair,

WHICH is so common now-a-days, may be entirely prevented by the use of BURNETT'S COCOAINE. It has been used in thousands of cases where the hair was coming out in handfuls and has never failed to arrest its decay, and to promote a healthy and vigorous growth. It is at the same time unrivalled as a dressing for the hair. A single application will render it soft and glossy for several days.

Trees! Trees! at Wholesale!

TOLEDO NURSERIES, FAHNESTOCK & BAKER

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" " dwarf	1 year		110 00	"
" " "	2 "		180 00	"
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" "	1 "		180 00	"
" " dwarf	1 "		140 00	"
" " " extra	2 "	$20 per 100	180 00	"
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" dwarf, fine		12 "		
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THE SOUTHERN PART

of the State lies within the zone of the cotton regions, while the soil is admirably adapted to the growth of tobacco and hemp; and the wheat is worth from fifteen to twenty cents more per bushel than that raised further north.

RICH ROLLING PRAIRIE LANDS.

The deep rich loam of the prairies is cultivated with such wonderful facility that the farmers of the Eastern and Middle States are moving to Illinois in great numbers. The area of Illinois is about equal to that of England, and the soil is so rich that it will support twenty millions of people.

EASTERN AND SOUTHERN MARKETS.

These lands are contiguous to a railroad 700 miles in length, which connects with other roads and navigable lakes and rivers, thus affording an unbroken communication with the Eastern and Southern markets.

APPLICATION OF CAPITAL.

Thus far, capital and labor have been applied to developing the soil; the great resources of the State in coal and iron are almost untouched. The invariable rule that the mechanical arts flourish best where food and fuel are cheapest, will follow at an early day in Illinois, and in the course of the next ten years the natural laws and necessities of the case warrant the belief that at least five hundred thousand people will be engaged in the State of Illinois in various manufacturing pursuits.

RAILROAD SYSTEM OF ILLINOIS.

Over $100,000,000 of private capital have been expended on the railways of Illinois. Inasmuch as part of the income from several these works, with a valuable public fund in lands, go to diminish the State expenses, the TAXES ARE LIGHT, and must consequently every day decrease.

THE STATE DEBT.

The State Debt is only $10,105,398, 14, and within the last three years has been reduced $2,959,746 80, and we may reasonably expect that in ten years it will become extinct.

Pamphlets descriptive of the lands, soil, climate, productions, prices and terms of payment, can be had on application to

J. W. FOSTER, Land Commissioner, Chicago, Illinois.

PRESENT POPULATION.

The State is rapidly filling up with population; 868,025 persons having been added since 1850, making the present population 1,723,663, a ratio of 102 per cent. in ten years.

AGRICULTURAL PRODUCTS.

The Agricultural products of Illinois are greater than those of any other State. The products sent out during the past year exceeded 1,500,000 tons. The wheat crop of 1860 approaches 35,000,000 bushels, while the corn crop yields not less than 140,000,000 bushels.

FERTILITY OF THE SOIL.

Nowhere can the industrious farmer secure such immediate results for his labor as upon these prairie soils, they being composed of a deep rich loam, the fertility of which, is unsurpassed by any on the globe.

TO ACTUAL CULTIVATORS.

Since 1854, the company have sold 1,300,000 acres. They sell only to actual cultivators, and every contract contains an agreement to cultivate. The road has been constructed thro' these lands at an expense of $30,000,000. In 1850 the population of the forty-nine counties through which it passes was only 335,598; since which 479,293 have been added, making the whole population 814,891, a gain of 143 per cent.

EVIDENCES OF PROSPERITY.

As an evidence of the thrift of the people, it may be stated that 600,000 tons of freight, inclucing 8,600,000 bushels of grain, and 250,000 barrels of flour, were forwarded over the line last year

EDUCATION.

Mechanics and workingmen will find the free school system encouraged by the State, and endowed with a large revenue for the support of schools. Their children can live in sight of the church and schoolhouse and grow with the prosperity of the leading State in the Great Western Empire.

PRICES AND TERMS OF PAYMENT.

The prices of these lands vary from $6 to $25 per acre according to location, quality, &c. First-class farming lands sell for about $10 or $12 per acre; and the relative expense of subduing prairie land as compared with wood lands is in the ratio of 1 to 10 in favor of the former. The terms of sale for the bulk of these lands will be

One Year's Interest in advance,

at six per ct. per annum, and six interest notes at six per ct. payable respectively in one, two, three, four, five and six years from date of sale; and four notes for principal, payable in four, five, six and seven years from date of sale; the contract stipulating that one-teuth of the tract purchased shall be fenced and cultivated, each and every year, for five years from date of sale, so that at the end of five years, one-half shall be fenced and under cultivation.

Twenty Per Cent. will be deducted

from the valuation for cash, except the same should be at six dollars per acre, when the cash price will be five dollars.

For the names of the Towns, Villages and Cities situated upon the Illinois Central Railroad see pages 188, 189, 190, APPLETON'S RAILWAY GUIDE.